

July 2005

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YOUR TECHNOLOGY NAVIGATOR

Towards GADGETOPIA

Looking Into The Crystal Ball Throws Up Some Exciting Things To Look Out For



Heart Of The Matter:
36 Motherboards, With And
Without Graphic Cards, Tested

It's Play Time: All You Ever
Wanted To Know About Gaming
Consoles



**Building Your Own Payment
Gateway Can Have A Positive
Rub-Off On Your Online
Business**

**Complete Your MBA At Your
Convenience And Without
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Innovation Versus Invention



Maulik Jasubhai Publisher

WHY IS IT that technology products' life cycles are measured only in months? Why are some of their amazing features almost impossible to use?

Let's consider cell phones. Ever tried to use the acclaimed Web browsing feature from a cell phone? Or tried to plug it in to your notebook? Or ever counted how many clicks and sub-commands it takes to access the calendar function on your cell phone? Tried using it to make a 'conference call'? You do know that this feature exists, don't you?

Let's talk about cameras. I am sure many of you use multi-million pixel cameras. Once you are back from your vacation, how do you sort the pictures? How do you actually know what the picture contains given that all of them have cryptic numbers as file names? Tried to arrange them and make an album out of them? Or if you are using a much-vaunted camera phone, should it not be easier to download these pictures directly to a wire-free device that can make prints for you?

“Innovation is the process of applying ingenious ideas to great inventions...”

Printing should be the easiest task. After all, how difficult can it be to print address labels in fabulous 300-dpi colour at 10 pages per minute? But wait. If you want to print directly on envelopes using Microsoft Outlook's contacts list, you cannot do it unless you first create a mail-merge document—a task about as easy and enjoyable as changing the spark plugs on your car every time you want to start it.

The lesson is that while hardware and software technology companies are far more sophisticated today than they were a decade ago, they have still left users more confused. They have been so busy 'Inventing' that they have not paid enough attention to 'Innovation'.

Innovation is the process of applying ingenious ideas to great inventions so that they become usable by normal people like us. For example when Tim Berners Lee 'invented' the Internet, it was largely useless to most of us till innovators like Marc Andreessen of Netscape, Jerry Yang of Yahoo! and dozens of others created applications that opened doors to this brand new world. It was the 'Innovative' adaptation of a simple hard drive technology that brought us the iPod.

So let's hope that this coming decade is one where Innovation finally overtakes Invention!

A handwritten signature in black ink, appearing to read 'Maulik Jasubhai', with a stylized flourish underneath.

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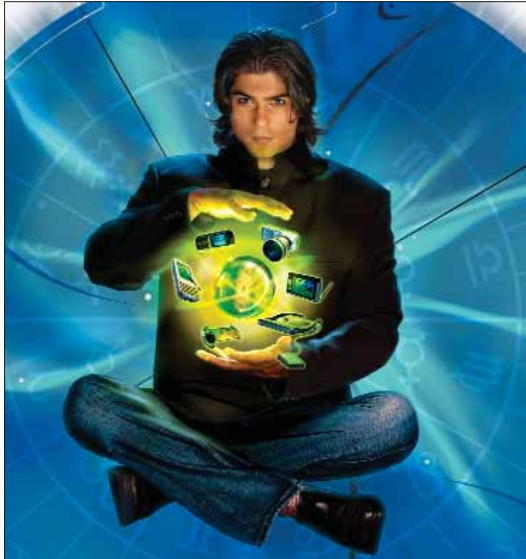
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Panda Software has created a list of famous people whose names have been used to spread viruses. Britney Spears now has the dubious distinction of topping that list

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DIGITAL PASSION

Area 51 Single Player Game Demo

Work your way through the heavily guarded military installation to discover the secrets it holds



WebLogic Server 9.0 Diablo Beta

Diablo squarely tackles the most difficult problems enterprises are facing today



Anarchy Online

Prepare to immerse yourself in this popular sci-fi RPG



DEVELOPER TOOLS

- DevPlanner 2.0.753
- EditiX 4.0 Build 090505
- Fusion Professional 3.2



- Lanap BotDetect for ASP 1.1.2
- Neuron Java Disassembler 1.0 b7
- PDF ReDirect 2.0.15
- SWiSHmax 2005.05.05
- IDA—The Interactive Disassembler 4.7

GAMES

- Juiced
- London Taxi Rush Hour



DIGITAL TOOLS



Adobe Photoshop CS2 Tryout

The new professional standard in digital imaging comes with an endless selection of drawing tools



Adobe GoLive CS2 Tryout

Unlock the power of CSS objects—drag and drop to build sophisticated sites



Dreamweaver MX 2004

A powerful combo of layout tools, enabling developers to create powerful applications

MULTIMEDIA

- DVD Shrink 3.2.0.15
- Macromedia Flash MX 2004 Updater 7.2
- Musicmatch Jukebox Basic 10.00.2058b
- Nero Media Player 1.4.0.32
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- Free Download Manager 1.7
- Google Web Accelerator 0.1.52.58 Beta
- Opera for Windows with Java Opera 7.54u2
- Maxthon Combo 1.3.1 build 20
- MSN Messenger 7 build 0813
- HijackThis 1.99.1
- MSN Winks Plus 1.00
- Skype 1.2.0.48
- Yahoo! Messenger 7.0.0.242
- Mozilla Firefox 1.1 Alpha 1 RC (Deer Park)



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- Anti Trojan Elite 3.0
- AntiVir Personal Edition 6.30.00.191
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- AutoPatcher XP May 2005
- Buddy Spy 2.1.9a
- DAEMON Tools 3.47
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- Malware Scanner 2.1.0.9
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AtPresent Editor 1.3.1

Create Flash-based highly interactive presentations, simulations, demos, tutorials, and more



Contact Magnet 2.2.3 build 158

It captures contact info from e-mails, Web pages, Word, Excel, or any other document



Easy Flowchart 1.5

Easy Flowchart is the easy-to-use, drag-and-drop software used in order to create professional flowcharts



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WHITEPAPERS



- Net in a Network
- Bulletproof Java Coding
- Connecting business-critical applications across and beyond your enterprise

- Concepts to Enhance Web Security
- Effective Use of Authentication
- Email Security
- Microsoft and Java

DIGITAL LEISURE

VIDEOS AND GAMES TRAILERS

Minimum Overdrive

This cleverly edited short film is a comedy where a man is taunted via a remote control car



Spider-Man: The Peril Of Doc Ock

This is exciting new animated short film commissioned where lego animated Spider Man takes on Doc Ock on the streets of NYC



WALLPAPERS

- 100+ Wallpapers

VIDEOS

- Minimum Overdrive
- Batman: New Times
- The Beast Within



- Spider-Man: The Peril Of Doc Ock.
- Knights Of The Old Republic II: Sith Lords

DESKTOP THEMES

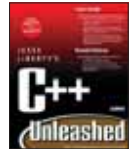
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- Abstract
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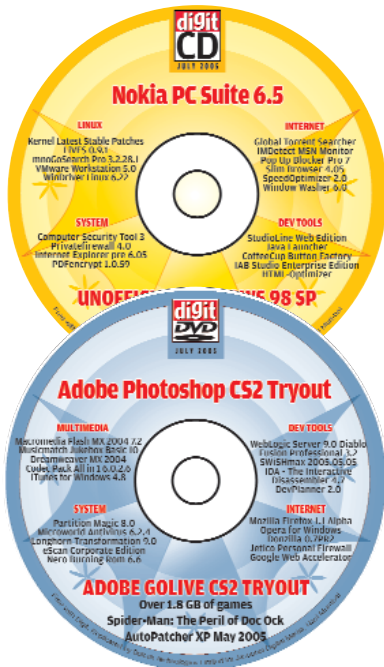
E-BOOKS

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- C/C++ Programming Style Guidelines by Fred Richards
- C++ tutorial for C users by Eigene Dateien
- C++ Unleashed
- C++ By Example by Greg Perry
- Buddhism as a Religion by Dr K Shridhammananda
- CGI Programming Unleashed
- Introduction to Structured Query Language by James Hoffman
- The Oracle/PL SQL CD Bookshelf



By Demand

You get to choose what goes in *Digit* Interactive. This month, you chose:
Area 51 Single Player Demo
Adobe Photoshop CS2 Tryout



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It really does pay to be loyal! Find out more on www.thinkdigit.com

Digit Reader Poll

This Month's Question

Will tabbed browsing in IE7 entice you to migrate to it?

- Yes
- No
- IE, are you crazy?
- I love IE anyways
- I don't use Windows

Log on to www.thinkdigit.com and vote

Last Month's Question:

How much of a difference do you think convergence will make in your daily lives?



There's something for everyone on the Digit Forum www.thinkdigit.com/forum

Digit

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The time now is Thu Mar 17, 2005 2:25 pm

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Digitized Interact with Team Digit members. Tell us what you think about the magazine (articles / sections), DVD contents and Web site. What you liked, what you didn't, and what you expect to see in the future... Moderators: Moderators , Administrators	45	2268	Thu Mar 17, 2005 4:05 am rail4 →
Member Reviews			
Software Reviews A forum to discuss/review software products. Your views and first-hand experiences on any software—from OSes to applications are welcome here. Note: The views/reviews contained within this section are purely the opinions of the posters Moderators: Moderators , JuniorMods , Administrators	1604	13336	Thu Mar 17, 2005 1:33 pm ashu888ashu888 →
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Tutorials This section offers tutorials and How to's on just about anything related to computers and IT. Note: All tutorials are courtesy the posters and not verified by Digit Moderators: Moderators , JuniorMods , Administrators	88	541	Thu Mar 17, 2005 7:38 am raikumar_personal →
Gaming			
Gamerz This section is dedicated to hardcore gamers. Gaming news, reviews, walkthroughs, easter eggs, cheats, etc., should be posted here. Note: All views/reviews within are the opinions of the respective posters only Moderators: Moderators , JuniorMods , Administrators	125	1712	Thu Mar 17, 2005 2:21 pm h4xbox →
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Bazaar An online marketplace for Digit users to buy or sell their second-hand IT goods. It's all here, from older Digit issues and CDs to computer parts and peripherals. Moderators: Moderators , JuniorMods , Administrators	337	1944	Thu Mar 17, 2005 1:21 pm rachitboom2 →

Not Mine

Microsoft plans to do away with the 'My' prefix in Longhorn. Longhorn will have just 'Documents', 'Music' and so on as folder names. The longstanding tradition of naming the folders with the 'My' prefix was an attempt to create a personal connection between people and their computers.



Funding For Linux-Based OS

A British company, Netproject, will develop a secure Linux-based desktop OS. The British Department of Trade and Industry has contributed £132,000 (Rs 1.04 crore) to the Secure Open Source Desktop programme. A similar sum has been donated by members of Netproject's Incubator Club.



Enter

Boman Irani
Actor

Boman Irani has done it all—fashion photography, theatre and Bollywood. The veteran actor's take on technology:

What does technology mean to you?

Whether we like it or not, technology is all-pervasive in our lives today—from the kitchen to the home entertainment system. One simply can't deny the role it plays in our daily lives.

Where do you use technology the most?

As a professional, you need to stay connected, and the mobile phone is like a lifeline. While I cannot answer each and every call, callers can at least reach me through SMS so I can get back to them later.

Do you own other gadgets?

I am not a gadget freak, but I have a camera phone. I use the camera feature often—more so when I am in a certain get-up, and I would like to store that image for some other occasion to show it to my make-up man.

How often do you surf?

I travel extensively, and surf the Internet primarily to look for holiday destinations.

An instance where technology has saved lives?

Undoubtedly, modern medicine. Surgery is now less painful and far quicker thanks to advancements in technology. Why, you see people who have undergone major surgery walking the very next day!

PIECE OF THE PIE

Intel To Get Inside Apple

Apple's decision to use Intel microprocessors and dump IBM's PowerPC chip is the biggest piece of news in the tech world this month. While the move may not have much of an impact on Intel's bottomline, given the fact that the Mac has just over two per cent of the world's desktop marketshare, it will definitely be a big boost to the troubled chip maker.

The Apple Mac is viewed as the über-cool of the computer world, and an alliance with them will help leverage Intel's position in the microprocessor market. The move will also help Apple address key portability issues that has plagued it in the past.

At a keynote address announcing the PowerPC-to-Intel transition, Apple CEO Steve Jobs revealed that Apple and Intel will provide developers with tools to help port code from the existing chip architecture to the new one.

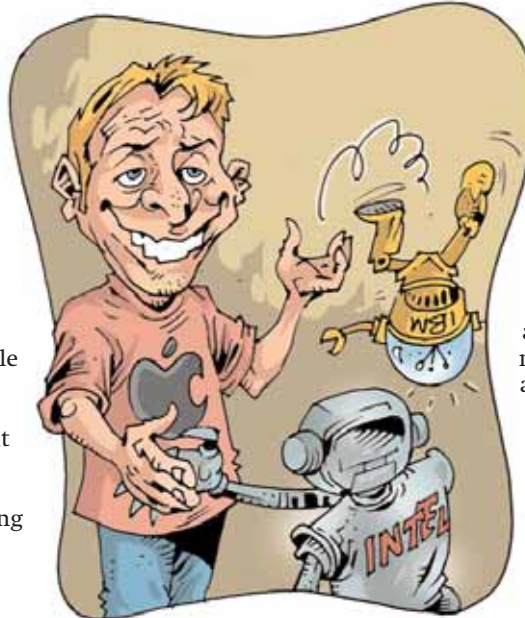
Apple said it was making the move to x86 architecture chips because of more power and better stability. But according to experts, one of the main reasons behind the switch is IBM's inability to develop versions of the G5 chip,

used in Apple's desktop G5 machines, which are suitable for Apple laptops without overheating. Applications will continue to work on both types of chipsets for some years.

Analysts, though, are seeing this move as a means to creating confusion in the minds of consumers. Some analysts have suggested that the transition

most innovative personal computer company as a customer," said Paul Otellini, President and CEO of Intel. "Apple helped found the PC industry and throughout the years has been known for fresh ideas and new approaches. We look forward to providing advanced chip technologies, and to collaborating on new initiatives, to help Apple continue to deliver innovative products for years to come."

Apple has used IBM's PowerPC processors since 1994. It plans to move lower-end computers such as the Mac Mini to Intel chips in mid-2006, and higher-end models such as the Power Mac in mid-2007. Reports about a project that maintained parallel Apple OSes that worked on x86 architecture—codenamed *Marklar*—are surfacing and, if true, would mean that the transition will be easier than expected.



could further damage Apple's low 2.3 per cent global market share, while others argue that this is a logical decision. Resistance is also expected from the Mac fanatic—the hardcore user of Macs and Apple Corp. would need to work overtime to ward this off.

Market analysts largely feel this will help Apple more than Intel. "We are thrilled to have the world's

HERE, LINUX!

Puppy Linux For Your PC

A retired lecturer from Australia has come up with the latest morph of Linux, a distribution of the Open Source OS that takes little memory and can

Security Watch

Frame Injection Vulnerability

The problem

A seven year-old type of vulnerability has been inadvertently re-introduced in the latest versions of several browsers. The flaw could be used by hackers or potential fraudsters to spoof the contents of Web sites, according to security alert firm Secunia. The security bug is "moderately critical", Secunia says. It stems from a failure to check if a target frame belongs to a particular opened Web site. This allows one browser window to load content into a named frame of another window.

Opera, Mozilla, Firefox, IE, Safari and more are all affected.

The Damages

If the contents of a Web page are 'spoofed', you could be misled into thinking that the content belongs to a different, more trusted site. Successful exploitation allows a malicious Web site to load arbitrary content in an arbitrary frame in another browser window owned by, for example, a trusted site. This might lead you to give out personal details that will fall into the wrong hands, for example, or believe something that's not true.

Precautions

Secunia has a test so you can check if your browser is affected. The test is at http://secunia.com/multiple_browsers_frame_injection_vulnerability_test/

If your browser is affected, there's not much you can do except wait for a patch and browse only trusted sites.

boot directly off a USB thumb drive.

Dubbed the 'Puppy' Linux, the OS is one of dozens of custom and guerilla variants on Linux circulating across the software community. The developer of the OS, Barry Kauler, says one of the main advantages of Puppy Linux is its simplicity. "When other distributions start up, you see all these servers loading, but in Puppy, it's really basic, and bootup is remarkably fast. However, I still managed to stick to the requirement of it all loading into RAM and freeing up the CD drive," claims Kauler.

Puppy began as a hand-built distro, which Kauler pieced together file by file. "For example, my unique printing system uses PDQ and the Gimp-print IJS drivers, but is tied together with my own Printer Wizard, written in Ash," Kauler said. (PDQ is a print utility; Gimp is an image-manipulation program)

FOX IN DEER'S CLOTHING

Preview To Firefox 1.1 Released

The Mozilla Foundation has released the first preview of Firefox 1.1, dubbed 'Deer Park Alpha 1'. The name 'Deer Park', according to the Foundation, is to ward off end-users from downloading and trying the

early version. The alpha is aimed at developers, particularly those who create plug-ins—called extensions in the Firefox world—to enhance the browser. Several release candidates, including one posted prior to a recent three-day weekend in the US, led to the release of the alpha version.

"Deer Park has been made available for testing purposes only, with no end-user support," Mozilla wrote on its site. "If that sounds scary, you'd probably be better off with the latest final release Firefox 1.0.4."

Among the visible changes in Deer Park is a 'sanitise' tool that deletes all evidence of browsing. Other enhancements include image thumbnails on tabs, and a revamped 'Options' dialog box.

Those ready to ignore Mozilla's warning can download the Windows, Linux, or Max OS X versions from the foundation's site. The final Firefox 1.1 aimed at end-users will be available in July, according to information on the Web site.

CHIPPING AWAY

A Supercomp Sans Microprocessors

An experimental supercomputer constructed from hardware that can reconfigure itself

HOT



Tabbed Browsing In IE

The upcoming IE7 is supposed to have the tabbed browsing feature, and now, it turns out that you can have tabbed browsing in IE6 itself. Tabbed browsing has long been a feature of Safari, Firefox, and Opera.

NOT

The Need For The MSN Toolbar!

Tabbed browsing is available within IE6 only through the MSN Search toolbar. You need to download it and install it for tabbed browsing to work—not to mention that you need to keep it installed!

to tackle software problems is being built by researchers in Scotland. The system under construction at the Edinburgh Parallel Computing Centre at Edinburgh University will use Field Programmable Gate Array (FPGA) chips instead of conventional microprocessors.

FPGAs can be reconfigured using software to mimic computer processing equipment that is physically designed to take on specialised tasks. In contrast, conventional microprocessors are designed to act as fixed, general purpose processing devices. Each FPGA chip consists of a block of programmable logic gates that can be electronically organised into different types of circuits.

One Silly Question What would you do if you were to become Microsoft's CEO for a day?



"Make a software that is completely bug-free"
Vinod Darole, Nashik



"Stop working"
Harsh Unadkat, Mumbai



"Speed up the release of Longhorn"
Pooja Wadhwa, Mumbai



"Spend as much money as I can!"
Kanchi Gandhi, Mumbai



"Make Microsoft Open Source"
Rohit Rangnathan, Chennai

UNITED STATES
Microsoft is cooperating with the Chinese government to censor the company's newly-launched Chinese-language Web portal, a spokesman said. The policy affects blogs created through the MSN Spaces service, said Adam Sohn, a global sales and marketing director at MSN.

UNITED STATES
eBay is no longer the domain of the tech-savvy or even those with a computer. Now, all you need is a way to get to Melanie Meyers' QuikDrop eBay store in Dallas, which proudly proclaims under its title: "We sell your stuff on eBay."

GERMANY
For good Catholics, the search for a spouse is like looking for a needle in a modern haystack of divorce, adultery, and permissive social values. In Germany, help is on the way in the form of an online dating portal, www.kathTreff.org. Members thinking about marriage fill in details such as typical alcohol consumption and even favourite saint!

MALAYSIA
In Malaysia, broadband is practically a pre-requisite for tech-savvy tourists. Renovation and re-branding to include trendy features and facilities such as broadband facilities, new dining concepts, and spa facilities are amongst the measures local hotels are looking at to enhance their competitive edge.

SOUTH AFRICA
The country is about to embark on its biggest hi-tech training and job creation push yet, with the unveiling of the McKinsey report into call centres. It predicts that South Africa can create 1,50,000 jobs in the next three years if it does what's necessary to lure outsourcers.

AUSTRALIA
IT is not hot in Universities any more. Queensland's Bond University has axed its IT faculty in a move reflecting a massive downturn in demand for computing courses at universities around Australia. Applications for IT courses have fallen by almost 50 per cent in some states.

The supercomputer will be more powerful and efficient than a conventional system of similar physical size. If it can be made easy enough to program, the researchers behind the machine say it could usher in a new generation of compact and energy-saving supercomputers over the coming decade.

Conventional microprocessors consume thousands of watts of power

and require specialised cooling. Once configured, a FPGA chip is faster, smaller and less power-hungry.

The researchers at the Centre are building a computer that will incorporate 64 FPGA processing units and would be capable of operating at 1 teraflop—one trillion mathematical operations per second, a fairly modest speed by modern supercomputing standards, as the fastest machines can operate at hundreds of teraflops.

However, the Edinburgh system will be up to 100 times more energy-efficient than a conventional supercomputer of equivalent computing power. The 64-node FPGA machine will also need only as much space as four conventional PCs, while a normal 1-teraflop supercomputer would fill a room.



Illustrations Harsho Mohan Chatteraj



Three Incredibly Useful Sites

For nerds and for the rest of us

www.nerdworld.com



Nerdworld.com

This is a Web site about nerd culture for the burgeoning nerd community. Nerdworld.com celebrates nerd lifestyle and popular culture, including nerd work, fashion, dating, cooking, sports and entertainment. The site also features nerd chat rooms and assemblies, nerd IQ tests, calendar services, and even a nerd store!

www.hyperdictionary.com



Hyperdictionary.com

This site provides free dictionary services, and has a neat interface. The English Dictionary contains 150,000 terms with examples, synonyms, antonyms, and related words. The Computer Dictionary consists of almost 14,000 computer-related terms. There is also a Thesaurus, Medical Dictionary and even a Dream Dictionary!

www.pshowandtell.com



Pshowandtell.com

Get 'answers on the fly' with this site, one of the largest multimedia libraries out there with over 40,000 animated voiced tutorials on more than 100 of your favourite software applications. The small (average filesize is 100k) and quick multimedia tutorials provide task-specific application help in one-minute modules. All this for only \$30 (Rs 1,300) a year!

Beat That!

Digit Caption
 "Crash Testing Longhorn"

Last Month's Winner!
 Vikas Gupta, Kota, Rajasthan
 "Boot polish, now in prepaid!"



e-mail your captions with subject 'Beat That' and postal address to beatthat@thinkdigit.com and win the **Family UtilityCD** from Numeric Power Systems Ltd



Photograph Jiten Gandhi

Every month, *Digit* will carry a caption for a photo. Come up with something funnier, and beat the *Digit* team at their own game!

But figuring out how to make the FPGA chips work together efficiently represents a challenge. FPGA hardware is more difficult to program, because a programmer must understand how to tweak the underlying hardware to get the most out of it. Once built, designers will attempt to transfer existing supercomputer programs onto the new hardware.

BROADENING HORIZONS Broadband Around The World

According to a recent survey by research firm eMarketer, South Korea is the world's biggest user of high-speed Internet, and China could soon overtake the US with the greatest number of high-speed households. The research firm said South Korea had 73 per cent of its Web users utilising broadband connections.

The US still had more broadband households, at 34.3 million. The report suggested that China would soon be the top broadband country in terms of total households, even though only 6.5 per cent of its households have high-speed connections. China, the study said, had grown from four million broadband households in 2002 to over 23 million in 2004.

In percentage terms, South Korea was followed by Hong Kong, with 59.1 per cent having high-speed connections, Taiwan (50.8 per cent), Canada (42.7 per cent), and The Netherlands (41.3 per cent). The US ranked 11th in percentage terms at 29.9 per cent.

HARDWARE AT E3 Gadget and Gizmo Gazing (G3)

This year's Electronic Entertainment Expo (E3) saw Playstation 3, Nintendo Revolution and the Xbox

360 grab all the headlines. However, these high-end gaming consoles will be released only much later. While we await their release, we felt we'd take you on a tour of some other eyeball-grabbing hardware on show at E3.

Gizmondo: The handheld gaming console battle has been a slugfest between Sony's PlayStation Portable and the interactive Nintendo DS. However, the Gizmondo from Tiger Telematics will be a serious contender if it delivers on its innovative promise.

The gizmo looks to be the all purpose Swiss-Army knife of handhelds with its blend of technology that includes GPS satellite tracking, a digital camera and a gyroscope. To add to its repertoire, it also plays digital music, movies and video games on a 2.8-inch colour screen. Already available in Europe, this

nifty console retails at almost \$230 (Rs 10,000).

Theater Experience PSP: The Sony PSP is an excellent portable gaming and movie viewing console. However, the rapid battery drain and poor audio are issues that will frustrate any user.

The Theatre Experience PSP from Nyko Technologies is out to remedy these problems. The device provides an extra five hours of battery, boosts the PSP's tinny audio with a robust set of stereo speakers, and all this comes wrapped in a flip-open aluminium carrying case.

One of the most welcome inclusions is the least techie: an adjustable stand. No more straining





said before with certainty that a molecule could be a building block and now there's no doubt," Robert Wolkow, head of the research team at the University of Alberta, said. The team's results have appeared in the scientific journal *Nature*.

Wolkow's gizmo consists of one to 20 molecules anchored to a silicon wafer, and is nearly a thousand times smaller than conventional transistors—and requires about a millionth as much energy.

The breakthrough is the result of five years of intense work by Wolkow and his colleagues. It took this long to figure out how to line up the molecules and the small electrodes and control the flow of electricity.

However, consumers won't find this microscopic transistor in their desktops any time soon as it takes several minutes to turn the processor on or off. To be useful in a PC, it would need to make the switch in less than a microsecond.

NOW, PREMIUM PACKAGES

More To Skype About

Skype, the much talked about VoIP provider on the Internet today, has announced two premium services. Currently, the software lets Internet users call one another for free anywhere in the world and works on the P2P model.

The premium packages—SkypeIn and Skype Voicemail—are built into the latest version of the software, available for the Linux, Mac OS, Pocket PC and Windows.

GENDER



BENDERS

Vipra Guneta v/s Rahul Jindal

Hiding All The Desktop Icons



Rahul, a law student, is confident and raring to go. First, he right-clicks the desktop, and opens the 'Display Properties' dialog box. Under the 'Desktop' and 'Appearance' headings, Rahul hunts for an option that will enable him to conceal all the desktop icons. Not finding any solution there, he performs a series of rapid right-clicks on the desktop. Soon enough, he deselects the 'Show All Icons' option. Well done Rahul - just a tad late!



A collegian, Vipra looks very much at ease. She goes to the Start Menu, then 'Programs', and enters the Control Panel. Next, she clicks the 'Display' icon, upon which the 'Display Properties' dialog box comes into view. After clicking the numerous options to no avail, she exits the Control Panel. Vipra remains undaunted, and finally right-clicks the desktop, goes to 'Arrange Icons By', and deselects the option 'Show All Icons'. Voilà, the desktop is icon-free, and Vipra smiles serenely.

your wrists trying to hold the PSP at just the right viewing angle for hours. Launched in June, it costs about \$70 (Rs 3,050).

PowerPlay 5.1 Media Chair:

Empower Technologies PowerPlay 5.1 Media Chair will make you hate your office desk. As the name suggests, the chair is the centre of a surround sound stereo system that'll make those shots fired in *Doom 3*

pierce your heart! The setup is a prototype and the black and tubular metal piece of furniture is unlikely to be seen anywhere but in the most macho of bachelor pads.

Logitech Cordless:

Precision/Attack Controller Gaming consoles with wireless controls is old news. Now two new offerings from Logitech bring the affordable freedom of wire-free

gaming to the PlayStation 2 and Xbox. The semi-translucent blue \$30 (Rs 1,300) Precision is compatible with the PS2, while the see-through green \$40 (Rs 1,740) Attack works with the Xbox. So what's new about the old news? Logitech says the Precision and Attack will last 300 hours on just two AA batteries.

Saitek Pro Gamer Command Pad:

This \$40 (Rs 1,740) keyboard ad-on will appeal to all the fans of first-person shooters, or any computer game where you'll need a nimble keyboard to get around. The accessory looks like a separate numeric keypad with a special thumb rest however calculating is not what Saitek have in mind when they designed this toy. The keys are laser-etched and glow blue, which should make it easier to see what keys are being frantically pounded during those intense, late-night *Doom 3* battles.

SMALL GETS SMALLER

Nanotech Gets Real

Engineers from Canada have created the world's smallest transistor in which electricity flows through a molecule.

The device, which is visible only through a powerful microscope, may be the biggest development in nanotechnology so far.

"It's a big step forward. It could never have been

Pentium D

The Pentium D, the currently most-talked-about processor by Intel, is a dual-core processor for use mainly in desktop PCs. The Pentium D does not support HyperThreading.

Complete with hardware DRM capabilities, the new chip helps add support for surround-

sound audio, high definition video and enhanced graphics. At the bottom of the pile is the Pentium D 820, which runs at 2.8 GHz. Next up is 830 at 3.0 GHz, and then there's the 840, running at 3.2GHz. As an indicator, the PD 830 retails for \$316 (Rs 13,750).

Buzzword
of the MONTH



Dual-core Processors

What are dual-core processors?

A dual core processor is two processor cores on one die, essentially like having a dual processor system in one processor.

How will shifting to dual-core help?

The problem with winding up clock speeds is heat. High heat means errors. The heat comes from power. It takes a lot of juice to crank up a processor to high clock speeds and a processor with that much electricity running around the die is prone to electrical noise, akin to interference. The pathways on a processor are very close together. More power running through these pathways means there will be electrical radiation from one pathway to the next. This leakage could corrupt the data, and corrupted data means errors.

Where can I find a dual-core processor?

Expect to see dual-core desktops in India soon!

Why do we need dual-core processors?

A properly-configured dual-core system will react quicker when lots of applications are running simultaneously. The OS can manage which applications are sent to which processor core—so if one core is encoding a TV show, the OS can send your command to open up a Web browser to the second CPU core. In short, a dual-core processor will make your PC multi-task better.

When was the first dual-core processor launched?

The first dual-core processor was IBM's Power4 chip in 2001, beating Intel's Pentium Processor Extreme Edition 840 by a few days.

Who manufactures dual-core processors?

Most major chip manufacturers, including AMD and Intel, are in the dual-core race.

The company already has the SkypeOut feature for making calls from computers to regular phones, which costs less than 2 cents (Rs 0.87) a minute. SkypeIn allows incoming calls. With SkypeIn, users get a regular phone number and can receive calls from a landline or mobile phones without having to pay roaming charges.

Skype Voicemail lets users receive a voice-mail message up to 10 minutes long from any user or traditional phone.

According to Niklas Zennstrom, CEO and co-founder, both packages would give family members and friends of Skype users, who are not connected to the Internet, a way to interact with them.

The number of downloads for the free software has crossed 100 million, with more than two million people using it at any given moment.

Skype, based in Luxembourg and founded in Sweden, said SkypeIn will cost \$13 (Rs 565) for three months and \$40 (Rs 1,740) for a year. A Skype Voicemail subscription costs \$7 (Rs 305) for 3 months and \$20 (Rs 870) for the year.

In related news, unconfirmed reports claimed that Yahoo Inc. was planning on a merger or a complete takeover of Skype.

FLASH ME AGAIN!

Macromedia Unveils Flash Platform

Macromedia unveiled the Macromedia Flash Platform for delivering effective experience for rich content, applications, and communications across browsers, OSes and devices of all kinds.

The Flash Platform is a complete system, including

a universal client runtime, an openly-published file format (.SWF) specification, a programming model, developer tools, integrated solutions, and the support of major systems integration partners, ISVs, and OEMs. A host of third-party tools and solutions based on the Flash platform leverage the platform, such as SAP NetWeaver Visual Composer. The Flash platform enables differentiated experiences in a variety of vertical markets.

The company also previewed the next generation of Macromedia Flash Player, now in beta. Code-named Maelstrom, the updated player will dramatically improve Flash expressiveness and performance. It will further strengthen the Flash Platform with improved font display and a new, higher-quality video codec. Maelstrom will be available for public download later this year.

TICKET TO SAFETY

Microchip In The Passport

The German government is using highly secure chips developed by Infineon Technologies in an effort to make counterfeiting and unauthorised use virtually impossible in future electronic passports, which the German Passport Office intends to issue starting November 2005.

Infineon will also be supplying a special chip package developed for identity cards and passports as well as the inlay containing the antenna and its connection to the chip.



In the new electronic passports, printed information about the holder's identity—such as name, date of birth and photo, and the validity period and number—will also be stored in encrypted format on a chip.

Moreover, from March 2007, fingerprints of the bearer's index fingers will also be stored in an encrypted form. Plans to invisibly integrate the chip into the front cover are also being discussed.

The data stored on the chip can be accessed only when the passport is opened. This data is then transmitted to an authorised and certificated read-write device.

Over 50 individual security mechanisms integrated into the chip technology will help ensure that personal data is protected against unauthorised read-out and manipulation.

The German company Bundesdruckerei will be producing the passports and providing the necessary infrastructure including the background system and even the reading devices. Infineon Technologies is one of the two semiconductor suppliers for the German passport.

Compiled by Aditya Kuber,
Mithun Kidambi, Ram Mohan Rao
and Renuka Rane



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Digital

Passion

Fuelling the pursuit of technology knowledge

Tomorrow

Prototypes Today, Gadgets Tomorrow

As always, the technology that we find cool today will hardly be given a glance tomorrow. *Digit* plays soothsayer and predicts what the personal gadget of the near future will look like...

Robert Sovereign-Smith

The lines between functionality of gadgets are being blurred. Remember the days when savvy executives were seen walking around with so many gadgets strapped to their belts that they looked more like handymen than executives? A walkman for aural entertainment on the move, a pager to keep in touch with the office and a digital diary to store their contacts...

Fast forward a few years into the present, and the story isn't too different. MP3 players are about the size of a matchbox, and a lot easier to carry around than the huge walkman of yore. Pagers are *passé*, as the latest mobiles come equipped with cameras, address books and basic PDA functionality.

An addition has been the laptop, which is a lot bigger than anything we would carry around earlier, but about as essential to our fast-paced lives as our kidneys.

In essence, we're having to lug around a lot more gadgets, and as a result, more weight than we did before. Hopefully, this won't last for long and technology will find a way to bring relief to our aching backs.



What's New?

We still have the demarcations of products: PDAs are still mainly PDAs, laptops are just being segregated into tablet PCs and laptops, but cell phones, however, are anything but just plain cell phones today. Recently, cell phone manufacturers seem to have caught the innovation bug, and no one is complaining. If anything, we wish the rest of the segments would start innovating just as much.

This doesn't mean that the big names in technology have been sitting idle, churning out boring gadgets. In fact, there are some very exciting products scheduled to hit the markets soon, or at least prototypes of gadgets conjured up by creative minds. Let's take a look at some cool gadgets that we think have the potential to make it big.

BenQ's P50

This PDA phone is 120 x 60 x 20 mm large and weighs a mere 170 grams. It sports a 240 x 320 pixel touchscreen that displays 256K colours. The OS is Microsoft Windows PocketPC 2003. From the cell phone angle, it is quad-band (GSM



The BenQ P50 proves that upcoming devices will be much more than just ordinary cell phones

850/900/1800/1900), has 64-channel polyphonic ringtones, supports GPRS class 10, MMS, infrared, Bluetooth, WAP 2.0, and a Li-Ion battery with a standby time of 100 hours.

In terms of PDA functionality, it has handwriting recognition, inbuilt 64 MB memory, SD/MMC slots, JAVA for downloadable games, a USB port, 1.3 megapixel camera with a top resolution of 1280 x 960 pixels, video capture, photo album, MP3/MPEG-4 player, Wi-Fi, and not to forget, the QWERTY keyboard.

If recent trends are anything to go by, this device will fit right in when it is finally released. As you can see, cell phones are becoming much more powerful than ever before.

Samsung's SCH-V770

It's a phone with a camera! No, it's a camera with a phone... the argument continues, especially here at *Digit*. Whatever it is, it's both, a cellular phone as well as a camera—and a good one at that!



Samsung's SCH-V770 will hardly be noticed as a phone, but does prove that high-end cameras and mobile phones can be integrated as a single product

The phone boasts of a 7-megapixel camera with 3x optical zoom and 5x digital zoom and autofocus, and yes (finally!), a flash as well. In fact, it's the inclusion of the flash that's got people at *Digit* arguing over whether it's a camera-phone or a phone-camera.

The camera supports the attachment of teleconversion and wide-angle lenses—a first on a phone, for sure. It offers a host of other camera features, including manual control of focus and focal length, shutter speeds, control over exposure times and auto exposure locking, and advanced features such as aperture priority and shutter priority.

It also records video at QVGA resolution (16 million colours) at 15 to 30 frames per second, and has a TV-Out connector so you can view both, stills and movies with the family.

From the phone point of view, it's pretty standard—CDMA, 64-channel polyphonic ringtones, and so on. It also throws in an MP3 player and a card reader!

Somehow, one gets the feeling Samsung is just showing off their technical prowess by making this gadget—not that anyone's complaining, right?



Nokia's Internet Tablet PC is a step in the right direction, proving that the majority of functions we do on the Internet don't need a PC, or even a keyboard!

Nokia's 770 Internet Tablet

This product is hardly a prototype as it's available for purchase, but it's a worthy mention when talking about truly mobile gadgets.

The 770 boasts of 64 MB of DDR RAM and 128 MB of Flash memory (64 MB available to users), and a 64 MB RS-MMC card. The dimensions are 141 x 79 x 19 mm, with an 800 x 480 resolution touchscreen that can display 65K colours. At 230 grams, it can hardly be considered heavy, and the black and matte silver colour add style to its looks.

The OS is Linux-based Internet Tablet 2005 software edition. Applications bundled are a Web browser, Flash player 6, an e-mail client, a news reader, media players, an image reader, file manager, PDF viewer, notes, sketch, games, a calculator, and a clock. The playback of most audio and video formats such as MP3, Real Audio, MPEG4, AAC, WAV, AVI, MPEG1, MPEG4, Real Video etc. are supported by the tablet.

It also supports popular image formats such as JPEG, GIF, BMP, TIFF, PNG, Animated GIF, SVG-tiny, and ICO.

It connects to your phone via Bluetooth, and to a WLAN using Wi-Fi. It also connects directly to your PC via USB, and offers a 3.5 mm stereo output for audio. Overall, if surfing the Net and checking your mail wherever you are is something you just have to do, this is the answer to your prayers.

Polymer Vision Rollable Display

Polymer Vision, a sort of subsidiary of Philips, already has a product called PVQML5, which is an ultra-thin (0.1 mm) QVGA (320 x 240 pixel) monochrome display. It measures about 5 inches diagonally, and has only four grey levels, but it's a step in the right direction.

There are already talks of mass producing e-newspapers using this technology—connect the display to the Net using a mobile phone, and you get news content from your favourite sources delivered to you, which you then read like a regular newspaper.

E-Ink Corp's (pioneers of paper displays) bistable electrophoretic display effect is used here, and this results in minimal power usage by the display—ideal for mobile displays. The contrast is high (10:1) which provides ideal reading conditions, even under direct sunlight. It's slated to hit the production lines in less than two years.

The ideal scenario for rollable display implementation is in mobile devices that require larger screens at times, such as when viewing Web pages. Mobile devices can increase display size on demand, and the larger rollable display adds no weight or dimensions. It doesn't affect the device's power consumption either.

Such displays could also be used to make stand-alone products. Think of a pen that rolls out a display on which you can read stored e-books, or perhaps even connect to a phone using Bluetooth and download and view your favourite e-books. And you need not worry about your screen cracking, no matter how often you drop your gadget!



Polymer Vision's Rollable Display will break the shackles that gadget designers have had to endure, due to the limitations imposed on them by current generation display technologies

Polymer Vision is working on larger screens with colour capabilities and also a touchscreen option—they aim to make all this available at affordable prices. We can easily imagine a smartphone that contains one of these screens: just unroll the screen, watch your favourite movie, and then roll it back up and return to business on your phone's small screen!

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ICUITI's V920 Display

Another form of display that has been around for some time now, but just doesn't seem to have caught the fancy of geeks, is the wearable display, or eyewear display.

The concept is simple—just create a virtual display in front of your eyes using spectacle-like devices. As a result, various wearable displays offer various virtual screen experiences—from the effect of a 17-inch display viewed from three feet away (the weirdest we could find) to a 105-inch display viewed from 10 feet away. We chose ICUITI's products only because their V920 display was chosen as an Innovations 2005 Design and Engineering Honouree, in the Personal Electronics Category, at CES 2005.

The V920 connects to almost any video source, using one of multiple cables provided. It also features stereo headphones to offer you both audio and video privacy when worn. It claims to offer a viewing experience equivalent to watching a 42-inch LCD monitor from 7.5 feet away. It weighs just 100 grams, and bundles a controller weighing about 110 grams (with batteries), which is used to set typical settings such as brightness and contrast, and volume for your headphones, and also connect to your DVD player, game console, laptop or PC.

The displays are dual 640 x 480 resolution backlit LCDs, with independent focus for left and right eyes. The set can also be worn over prescription spectacles, and the controller uses 2 AA cells. When connected to a PC via



This is not a real product! It's Philips Polymer Vision's idea of what their research aims to accomplish. We hope to see such devices in the future, with light rollable touchscreen displays that enhance the functionality of gadgets

USB, it is powered by the USB port, so no batteries are needed in this mode.

Overall, this gadget seems great for home or indoor use, but we doubt anyone would be caught dead wearing these on the street, even though they offer a 15-degree tilt for a non-immersive view.

What's New Tomorrow?

Sure, we were salivating when we were reading up on all these cool gizmos and technologies, but something was missing. That's the whole problem actually—something's always missing.

When you see a cool smartphone with a 7-megapixel camera, PDA functionality, a hard drive bigger than what desktops had five years ago, and a mobile CPU faster than what was on that same five-year old PC, you still end up saying, "I wish it had a notebook's functionality!" We're geeks, and we're happy to admit that we're never satisfied!

Well, whether any manufacturer bothers to listen or not, we decided it's OK to dream. We sat down and tried to come up with our dream gadget, or more correctly, every geek's dream gadget.

We called our gadget GOD. Now, before you get all righteous, start screaming blasphemy, and damn us to eternal torture in hell, you should know that GOD, here, is an acronym for 'Gadget of Our Dreams!'

We decided we needed a gadget that obviously had the functionality of a cell phone,



ICUITI's V920 Display has finally made the concept of virtual displays a reality. This is another way of setting free the creativity of gadget designers—they no longer need to worry about displays, and can focus on better, compact designs



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because mobility is pointless without communications. The next thing we decided we needed was PDA functionality, because things like address books and e-mail need to be available on demand and easily—as they are in PDAs. Then we decided to get greedy, and wanted laptop functionality as well, because, well, why not?

It would be nice to have a gadget that gave you the quick usefulness of a PDA, but when required, would let you open up Photoshop to edit the image you just clicked, or play your favourite games! And while we're adding a laptop, we thought, "Oh what the hell, why not make it a tablet PC as well..."

GOD

We decided that GOD should be no bigger than a current PDA—after all, why would anyone want to lug around a device any larger than that in the first place? So the dimensions were fixed at a maximum of 140 x 100 x 30 mm (h x w x d). We really don't like the idea of holding up such a gadget to our ears in order to use the cell phone functionality, so the first thing we did was add a Bluetooth headset. Ironic that we started on the bundled goodies even before we started designing the device itself, isn't it?

Now that we had settled on how it would be used as a phone, we decided we needed to have a look at the front fascia. Number keys were a must, and if it was going to be a PDA as well, screen area was worth its space in gold. We decided to offer most of the front face as a screen, no buttons at all.

This is an imaginary scenario, so we decided that batteries are supercharged, and can last for days, even with the screen and Bluetooth turned on all the time. Also, storage is not a problem, as the device uses a non-volatile RAM/HDD (see www.atomchip.com).

So we designed the front display to have two modes: phone and PDA. In phone mode, the display is divided in two, with one part displaying virtual QWERTY or number keys, which can be used as normal keys thanks to touchscreens, and the other part acting as the regular phone display. Only when required, would GOD switch to PDA mode. Now the problem was that we needed a trigger for this to happen. Sure, we could just add a PDA mode virtual button, but that wasn't cool enough.

We decided that apart from adding a PDA mode switch into the phone menu, we would also add a trigger in the stylus mechanism—pull out the stylus, and GOD switches into PDA mode. Cool, isn't it?



Gadget of Our Dreams—GOD! Here you can see GOD in phone mode. Those buttons aren't real buttons, instead they're just images of buttons on the touchscreen display




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Pictures, we decided, could be clicked only when in PDA mode, using the 5-megapixel camera-PDA mode offered the best area for the LCD viewfinder.

Someone pointed out that we needed to think of what would happen if you got a call when in PDA mode, so we decided that the calling number would blink on one corner of the screen, and you could choose to either switch back to phone mode or just take the call using your Bluetooth headset. Simple, huh?

That done, we now had to figure out a way of cramming a tablet PC into this device. Easier said than done: we had no space to work with. “What about the length?” someone asked. “What about it?” “Well, 140 mm isn’t bad for a monitor’s width, settle for a small display... better than nothing.” OK. So GOD would flip open on a hinge attached along its length—much like Nokia’s Communicator series. The whole inside face would be made of a foldable display.

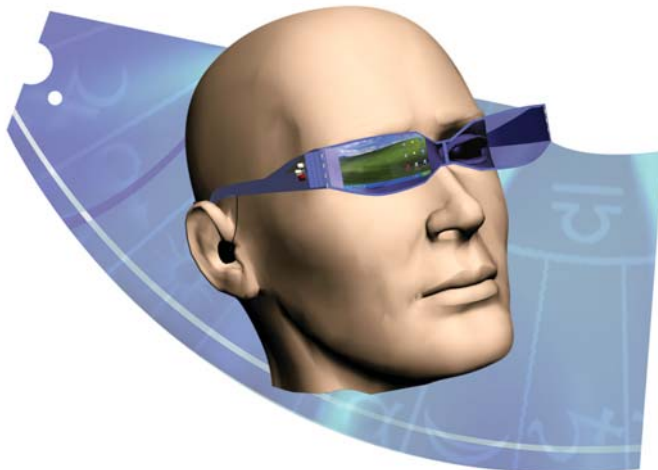
When half flipped open, GOD would function as a laptop, again using one half of the display as a virtual keyboard, and the other as a 140 x 100 mm screen. Somewhat like a tablet PC in laptop mode. In order to convert GOD to full tablet mode, all you need to do is open it up fully, at which point, GOD automatically converts to a 200 x 140 mm tablet PC—switching display orientation.

We had our share of arguments, especially over the small display when in laptop mode. One other option that seemed to make sense was not to have an intermediate laptop mode (with GOD flipped half open). Instead, use Bluetooth-enabled eyewear to project a virtual screen, and use GOD’s internal touchscreen display as a keyboard instead. This would keep users from having to squint to find icons on the tiny desktop! It’s already possible—there were no drawbacks in terms of technology.

We decided that GOD was, well GOD, and could do all the above. Besides, we now got to include a cool pair of virtual display goggles in the bundled accessories! Apart from the odd dreamer-geek who screamed for a 3D holographic display, most of us were satisfied with the results.



When GOD is opened, it converts into a decent sized tablet PC (200 x 140 mm). When opened, it can also be used as a keyboard along with the virtual display eyewear



The representation of a pair of virtual display spectacles shown here are not really far-fetched. In fact, they already come in all shapes, sizes and display resolutions! We're just predicting that they'll be designed to look cooler and become a fad!

That was about it. We had included everything we could think of, and it didn't take us more than a few hours—if only production lines were as easy to calibrate as our imaginations!

GOD In A Box

Now that we'd made GOD, we needed to package it, and that included a specification list. Here's what we came up with:

Hardware

2 GHz CPU
250 GB non-volatile RAM/HDD
X850 XT/6800 GT Gfx
100 x 150 front OLED touchscreen display
240 x 160 internal OLED foldable touchscreen display

Software Bundle

Windows / Linux Tablet PC OS
Handwriting recognition
Driver CD

Features

128-channel polyphonic ringtones
Bluetooth / Wi-Fi / Gigabit Ethernet
5-megapixel digital / Web camera
Unlimited address book / SMS / MMS storage
Palm / PocketPC functionality
And much more...

As for GOD's price, we decided people would definitely be willing to pay even up to \$5,000 (Rs 2,20,000) for this dream gadget. So the price was set to Rs 2 lakh.

Back To Reality

Every good thing has to end sometime, but as we reached the end of this article, we decided that our dream hadn't ended... in fact, it was just beginning—thanks to some great work being done by research labs and scientists around the world.

The reason we kept it believable—imagining only the use of technologies that exist, or, at most, are under development—is because GOD is not fictional! The thought that within a few years from now, we could be testing gadgets like GOD in a shootout for our readers is what makes our jobs—nay, our lives—worthwhile. ■

robert_smith@thinkdigit.com



Imaging Pradip Ingale

Are You Game?

'Gaming' consoles are fast becoming the ultimate home entertainment solution

Varun Dubey

Imagine you are in the middle of a race and suddenly, getting bored, decide to quit the game and watch a movie. A little later, even the movie turns out to be a drag and you decide to listen to some music from your voluminous MP3 collection. But suddenly you feel the need to check your e-mail too. Now, you need not shuttle between devices for performing these routine tasks. The new incarnations of Xbox—the Xbox 360—and the PlayStation 3 (PS3) allow you to do all this and more at the flick of a shiny button!

In this age of demanding consumerism and cutthroat competition, you need not settle for shoddy, below-par graphics and low-grade gaming machines anymore. The next-generation consoles are here, and they're here with all their guns blazing. Featuring more processing power than yesteryear's supercomputers, these 'gaming' consoles are fast becoming the ultimate home entertainment solution.

These devices—the Xbox 360 and PS3—let you play music, as well as movies on a screen, apart from giving you a brilliant gaming experience.

The advancements in the hardware inside these consoles is nothing short of path-breaking. Let's take a look under the bonnet of these babies.

The Cell Processor

The Cell Processor made headlines when it was released, and is deemed to be the future of computing. The basics of the Cell aren't too difficult to understand—what is difficult to understand is why didn't they think of the design earlier!

The Cell was jointly developed by IBM, Sony and Toshiba, and is touted to have cores operating in excess of 4 GHz! Remember that the fastest Intel Processor is still at 3.8 GHz, and AMD's Fx 55 runs at a mere 2.6 GHz!

To give a very basic idea of how the Cell works, consider this: if you need to solve a complex problem, you can do it in two ways—you either call in a super-genius with an IQ of 160, or

The Cell Architecture

In terms of head-to-head performance, there is nothing too special about the PPE, and pitched against Intel EE and Athlon FX processors, it would surely lose

impossibly large number of transistors on the processor chip.

A few years ago, the benchmark software and applications were office suites and photo editing software, which drove the development of processors that were optimised for single-thread (single application, single task) operations.

The scenario now is vastly different with 3D applications and gaming being the performance benchmarks. More and more manufactures are thinking of taking computers and the processing power to grow beyond the purview of just games and applications and enter the domain of technology as an enabler.

At the latest Intel Developer's Forum (IDF), things such as real-time voice recognition, unstructured search, and life-like in-game physics and AI (artificial Intelligence) have prompted manufacturers to look beyond single-thread optimisation, and focus on parallel computing where the PC either has multiple processors or has a multi-core processor that can process multiple threads simultaneously.

This approach is also important from a long-term point of view. Considering the way in which the demand for processing power has increased in the last five years, there is no telling the amount of power we would need five years from now.

This above-mentioned idea of increasing parallel processing has been applied in the creation of the cell processor. What follows is an overview of how the cell processor works.

The PPE

The cell processor has a 64-bit PowerPC chip, which has been termed as the PowerPC Processing Element, or the PPE. The PPE is a general-purpose CPU, which means that anything you can do with your Athlon 64 or Intel processors, you can do with the PPE. It features 64 KB of L1 cache and 512 KB of L2 cache. It also incorporates something called 'Simultaneous Multi Threading', or SMT, which is similar to HyperThreading in Intel processors.



Future of the gaming console: the PS3

In terms of head-to-head performance, there is nothing too special about the PPE, and pitched against Intel EE and Athlon FX processors, it would surely lose. But what the PPE signifies is a shift in developers' attitude—of moving away from complex, single-thread-optimised processors to simpler processors working in parallel.

Apart from the PPE, the cell has eight Synergistic Processing Elements (SPEs). These are similar to the simpler processors of a few years ago, except they've been designed from the ground up with specific functions in mind.

you call in three lesser geniuses with an IQ of 140 each. Obviously, three heads are better than one, so you take the second route. This is exactly what the people developing the Cell did. They put in multiple processors so various threads (streams of instructions) can be processed simultaneously.

So how did they manage to make a 'simpler' processor much faster than its more complex brethren? Well, surprisingly, they did it by making the processor *cores* simpler. The Cell processor has only a two-issue core, meaning, it can process only two instructions at a time, compared with the Athlon 64s, which are three-issue cores. You can see that the Cell is a simplified processor, with slightly limited capabilities.

Now, why make something simpler when millions of dollars were pumped into making processor cores complex in the first place?

The answer, in a word, is performance.

Over the past 20 years, every processor evolution has managed to add more and more transistors to increase performance. Now all instructions have various offshoots, as in everyday life you may make decisions based on things such as "if X happens, we'll go with Y, but if Z happens, we'll go with A", and so on.

The processor makes the same kind of decisions and attempts to guess which is the right way to go. Guessing wrong is costly in terms of wasted instruction cycles, and, increases the time taken to 'process' instructions.

To prevent this wrong guessing, or to at least minimise it's impact, processor dies are crammed with branch predictors, caches, and predictive cache pre-fetch units. This has no doubt massively improved performance, but it has also led to much higher power consumption and hence excessive heating along with an

Infographics Sivabal, S

All eight SPEs are connected to each other and to the 512 KB system cache via a data bus that's called the Element Interface Bus (EIB)

The reason we should get excited about the Cell processor is not just from the scope of gaming (which it will do immensely well as and when games are written for it, as it can handle and process multiple gaming instructions simultaneously, thus being able to give a more realistic appeal to the games) but also because the design of the Cell is extremely modular.

You can add more SPEs, or, in fact, remove some of them. Computing will become very modular in the future, and will give rise to a whole range of Cell-like processors depending on the kind of work load they're being targeted at.

Like the PPE, the SPEs have dual-issue cores, do not have a branch predictor, and rely completely on software for that function.

IBM calls the Cell a 'system on a chip' design, but it becomes a lot easier to understand it if you think of it as a network on a chip.

The SPEs

Each of the SPEs has 256 KB of local memory.

This is different from cache, as local memory can only be accessed by that SPE to which that local memory has been assigned.

All eight SPEs are connected to each other and to the 512 KB system cache via a data bus that's called the Element Interface Bus (EIB)

The SPEs are very basic processors, with the single-minded task of running through single- and double-precision mathematical calculations as fast as they can.

The SPEs are under direct control of the PPE, and hence they do not need to have their own personal instruction queuing logic (this is what decides what sequence the instructions are processed in) and hence are a lot smaller.

It is the PPE that does the work of scheduling, assigning and sending the data to each SPE for further processing.



The Xbox 360

The EIB

The EIB is a set of four 128-bit-wide data channels that connects the SPEs to the PPE, the Memory Interface controller as well as the Flex I/O system (which handles communication between the Cell chip and the rest of the computer system).

The Memory Interface Controller (MIC) connects to the EIB and handles the data transfer functions of the main memory. The approach taken here is the same as that of AMD, where the memory controller is built on the processor die, thus cutting out the need for data to be transferred from the processor to a separate memory controller—thereby leading to an overall boost in system performance.

The Flex I/O

The Flex I/O bus is like a regular front side bus (FSB) in a system and handles data transfer between the Cell processor and the rest of the system. It provides a whopping 76.8 GB/s data transfer rate, but this capacity is split into two parts—the data

that is intended for the Cell processor (or, in fact, other Cell processors in the system—termed as coherent data), and the data meant for the rest of the system (termed as incoherent data).

The RAM

Since the cell chip runs at 4 GHz and has massive memory requirements, the Cell is not based on the regular DDR (I, II or III), but on the RAMBUS technology. It has a dual-channel XDR memory bus running at 400 MHz.

Keep in mind two things: first, as has already been explained, on-die implementation greatly reduces memory latencies; second, XDR transfers data at eight times the memory bus clock, so you get 3.2 GHz of effective data signalling rates. While all this might be getting a bit too complex, suffice it to say that the end result of all this is a whopping 25.6 GB/s memory bandwidth!

The Unified Shader Architecture

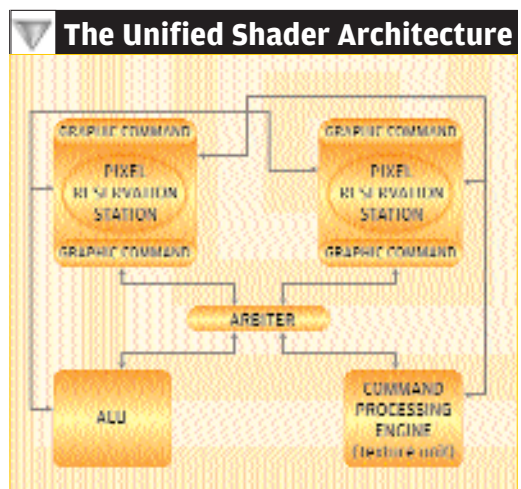
To understand and appreciate the true merit of ATI's achievement in being able to develop this for the Xbox 360, let's first understand the basics behind shaders.

No gamer today can shy away from discussing pixel shaders and vertex shaders and their cumulative effect on the visual appeal of the game.

The pixel is the smallest element in an image or graphic. Pixel shaders let programmers control the characteristics of the appearance of the gaming environment on a per-pixel basis. That is, they allow them to make graphics look organic, instead of artificial and computer-generated.

Vertex shaders, on the other hand, provide the programmer with the ability to add special effects by creating highly realistic animations, such as deformation of a car's bonnet in a crash. Programmers use high-level languages such as the DirectX API to give us the highly realistic graphics we enjoy in games today.

With the Xbox 360, ATI has become the first manufacturer to provide Pixel and Vertex shader integration at a hardware level. This is different from the trend so far, where Pixel and Vertex shader integration was done at the software level using device drivers.



The question arises again, how did they manage to do it?

The solution is quite innovative, actually. The system consists of three main units:

The Reservation Station: This is where the graphics instructions are saved. Now the reservation system can store either pixel or vertex shader commands.

The Arbiter: The Arbiter sits in Olympian judgment over the Reservation Station and takes and 'intelligently' transfers them to the Command Processing Engine.

The Command Processing Engine: It receives commands from the Arbiter, and after execution, sends them back to the Reservation Station—and includes some form of a flag system that marks the command as 'completed' so as to avoid multiple execution.

Now, to complicate things, instead of having a generic Reservation Station, let's put two Reservation Stations, where one stores vertex commands and the other stores pixel commands. These are directly connected to the Arbiter, which in turn is connected to the ALU and a Texture Processing Unit.

The Arbiter can now choose whether a command from the Reservation Stations goes to the ALU or the Texture Processing Unit, and the processed results are then sent back to the appropriate Reservation Station.

All this processing power and the spanking new graphics core implantation from ATi will ensure that the Xbox 360 stays competitive to the PCs and other consoles for the regular life of a console—around five years.

Sony and nVidia have been mum on the Graphics engine used in the PS3 as it has not yet been launched—it's expected in 2006—so we can't talk about it here.

The Consoles

The consoles of today are morphing from pure gaming devices into complete entertainment hubs with the ability to play DVDs, music and pictures. Let's take them apart feature by feature and see what's on offer.

The Xbox 360

The 360 is called so for the single reason that Microsoft thought calling it 'Xbox 2' would make it seem outdated in front of a name like 'PS3' (2 comes before 3, right?)

But the name is apt, as it does provide for a 360-degree entertainment experience. If you buy an Xbox, it will work as your music centre, DVD Player (12x dual-layer), as well as a photo sharer.

It comes with an inbuilt network adapter that lets you chat (text and voice) with other 360 users, whether they're watching a movie or smoking fellow racers in NFS Most Wanted, apart from connecting to your home network and surfing the Internet wirelessly!

The device also has support for up to four wireless controllers, and has three USB2.0 ports. An added attraction is the changeable face plate (à la Nokia) which will let you customise your Xbox 360 to match your décor (it is definitely sleek enough to be put there!) and taste.

The 360 is called so for the single reason that Microsoft thought that calling it 'Xbox 2' would make it seem outdated in front of a name like 'PS3'

The Controllers

Things haven't changed too much (not counting the pretty designs). The face is devoid of the ugly black and white buttons, which have been relocated onto the shoulder. Both wired and wire-free controls will be available. The wirefree versions will be powered by 2 AA batteries, which you can recharge via a cable. The central Xbox Guide button gives you instant access to your favourite functions such as movies, music or contacting friends over Xbox Live.

Xbox Live!

Xbox Live, the online service from Microsoft, is now available in two avatars—Gold and Silver. Each Xbox will come with a free subscription to the Silver version, which allows players to share their gamer's profiles (consisting of stuff like races won) and a customisable gamerstyle



The new Xbox controller is a lot sleeker than its predecessor

(marketing speak for display image!). It will also allow you to chat (text/voice) and log on to Live Marketplace, where you can download demos, trailers, new levels/maps etc. and store them on the detachable 20 GB hard disk.

Gold subscribers get the added benefit of online multiplayer gameplay, as well as video messaging. All Xbox 360 owners who sign on to Xbox Live for the first time will get a free month of the full subscription service, which will let them experience the full power of Live. Those who currently use Live on Xbox will also be able to transfer their subscriptions straight over to Gold.



The Xbox 360 Gamer's Profile window

In terms of availability, the Xbox 360 has been showcased, but Microsoft has not yet started shipping. The expected price would be somewhere around \$300, or roughly Rs 13,500.

The previous version is, of course, available in India, and you can pick up an Xbox (not an

Xbox 360) for around Rs 12,000 (street price). The package includes a Halo 1 DVD. Additional DVDs can be bought for around Rs 2,200 each, with Halo 2 and Doom III leading the sales charts.

The Xbox is the only legally available console in India, and retails for Rs 12,999 all inclusive. This is marginally higher than the grey market price, but there are no game disks. The game disks retail between two and four thousand rupees, depending on the game's fan following (as an example, Halo 2 retails for Rs 3,999).

The Sony PS3

Sony has a whole line-up of consoles, right from the PlayStation 1 (PS1) to the recently-launched and runaway success (half a million sold in the first week!) PlayStation Portable or PSP. Sony knows just how to position its consoles and price it just right. PlayStations also have the most comprehensive list of game titles (did we mention that you can't play games made for one console on the other?), which would satisfy even the most avid of gamers.

But with the PS3, Sony has outdone itself (or so the specifications suggest!)

No console has generated as much interest as has the Sony PS3. Recently showcased at E3 (see the *Enter* section in this issue for more), the power potential of PS3 is simply mind-numbing, the Cell processor being the main reason.

The showcasing was a complete brag show—as most showcases are—but the unveiled specs appear to be much better than those of the Xbox 360.

We have already mentioned the RAM and the Cell processor used before, so apart from all that, it features Dolby 5.1 Channel sound where the Cell processor doubles up as a sound card, and supports full-scale HDTV video out at 1920 x 1080i and 1280 x 720p.

It is also backward-compatible with the previous PlayStations (both 1 and 2). In terms of DVD support, it reads everything, from DVD+R, -R, +RW, -RW to Blu-Ray Disks. (Sony leads the consortium pushing it to make the entertainment standard). In fact, most PS3 titles are expected to be released on Blu-Ray.

Connectivity options are as extensive as the media reading capabilities. It has four front and two rear USB2.0 ports, as well as slots for Memory Stick Standard/Duo/Pro (that's pretty much all sizes!). Sony decided to stay out of pushing proprietary stuff for once, and also gave PS3 support for SD (Secure Digital), SD-mini and CF (Compact Flash) I and II memory cards.

In terms of networking capabilities, it supports wired networking as well as Wi-Fi 802.11 b/g, and Sony has thrown in Bluetooth for good measure. Interestingly, the controllers connect to the console using Bluetooth and not Wi-Fi, as is the case with the Xbox 360. This was done due to

You can pick up a PSP for around Rs 11,500 (street price) which is, in fact, cheaper than what it retails for in the US—\$275, or Rs 12,375!

the lower latencies of Bluetooth as compared to Wi-Fi. You can connect up to seven controllers at once, so that's a great race right there!

An interesting implementation is that using Wi-Fi, you can connect your PlayStation Portable to your PS3 and thus have multiplayer without having to buy two PS3s!

In terms of availability, the PS3 is expected to be available in 2006. However, the other versions are available, and at a damn good price at that! You can buy the first PlayStation, PS1, for roughly Rs 3,800 (street price) with gaming titles for Rs 650 each.

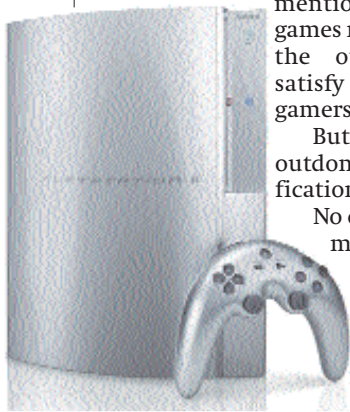
The PS2 is for the serious gamers, and is available for Rs 10,000 (street price). The titles are more expensive at Rs 2,200 for a DVD.

A really great buy, however, is the PlayStation Portable, which is Sony's foray into the handheld gaming market. The PSP is dominated by a large 4.3 inch 16:9 widescreen TFT LCD with 480 x 272 pixel resolution displaying 130k colours. It has a USB2.0 port, Wi-Fi (strangely, no browser though), and utilises proprietary Sony media called UMD (Universal Media Disk), which can store up to 1.8 GB of data, and looks like a very cool mini disk.

Apart from the UMD (used for playing games, much like DVDs in the PS 1, 2, and 3) it also supports various Memory Stick types, and you can use those to listen to music or, in fact, watch a movie, so it does give you a complete entertainment solution right there in your hands!

Surprisingly, the PSP is excellently priced. We're quite sure Sony is selling it at a loss to firm up its market position. You can pick up a PSP for around Rs 11,500 (street price) which is, in fact, cheaper than what it retails for in the US—\$275, or Rs 12,375! Game titles are quite expensive,

though, at Rs 2,200 a piece, but the sheer appeal of the device is worth shelling out 11 grand for!



The Sony PS3 with its game pad



The Sony PlayStation Portable (PSP)

Gamers have an insatiable appetite for a better, faster and a richer gaming experience and the manufacturers aren't letting them down either. They're creating devices that meet the gamers' requirements and in most cases, exceed them.

If you are into gaming and already own a PS2 or an Xbox, well and good, you need not really go and buy a PSP as well. But if you do not own an Xbox or a PlayStation yet, we suggest you wait a while and let the Xbox 360 and PS3 hit the markets because when they do, they will change the way you play games forever! ■

varun_dubey@thinkdigit.com

Say hello to the daddy of all phones

It's about time! With all the iPods and Flash devices circulating the globe, it was only a matter of time for a mobile phone that could store a few GBs of MP3s to hit the market. After all, it's not like the technology isn't available!

Looks like a phone manufacturer finally did just that. And so, ladies and gentlemen, presenting a phone that has a 4 GB hard drive, Wi-Fi 802.11b and g connectivity, 3G features, a solid stainless steel body (now clumsy people can think of spending half a year's salary on one) and support for MP3, AAC, WMA and M4A format files."

The Nokia N91 smartphone has that, plus regular phone features. Nokia even realised that we users *hate* buying proprietary headsets and add-ons, so they provided the phone with a

standard 3.5 mm stereo headphone jack for any regular pair of headphones!

The phone is smart enough to pause music playback when you get a call, has a 2 megapixel camera with a top still resolution of 1600 x 1200, and is capable to record video in the MPEG4 and Real Video 8 formats. The icing on the cake seems to be the bundled Opera browser with its amazing rendering engine that's optimised for small screens!



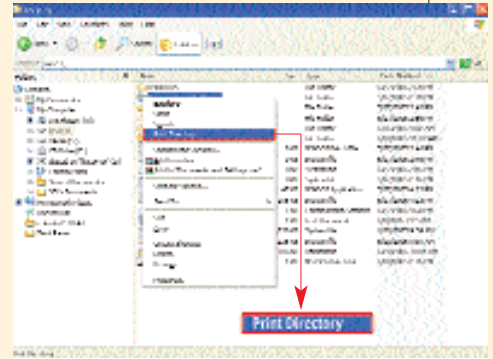
Nokia N91



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Say you want a hard copy of the contents of a directory on your hard disk. How would you go about printing out the directory listing—in Windows XP—without taking a screenshot? Write in with subject 'take a crack' to takeacrack@thinkdigit.com with your solution

Add an item to the context menu to print out a directory listing



LAST MONTH'S CHALLENGE



Take a Crack and Win

Computer Vision
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Jean Ponce
Published by Pearson Education
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WINNER

Piyush Paliwal
hackerzone05@yahoo.co.in
27, Ahinsapuri, Fatehpura,
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Jasubhai Digital Media is not responsible for any damage to your system that may be caused while you are trying to solve the problem.

Create a FAT32 partition larger than 32 GB on your hard disk

You will need a Windows 95, 98 or ME startup disk. Insert this in the floppy disk drive and restart the computer. When the Windows 98 startup menu is displayed, select 'Start computer without CD-ROM support'.

At the command prompt, type in "fdisk" and press [Enter]. In what follows, you'll need to press [Enter] after most commands, which we won't mention explicitly. When "Do you wish to

Delete Logical DOS Drive(s) in the Extended DOS Partition Delete Non-DOS Partition"

Press [3]. You will be presented with: "What drive do you want to delete?" Press [Z]. 'Z' represents the drive letter that corresponds to your logical drive.

The next thing that comes up says 'Enter Volume Label'. Leave the volume blank. Confirm this, then press [Esc] twice to get back

this, and then similarly, delete the Non-DOS partition, if it is NTFS. Now press [Esc] twice. In the main menu, press [1], and press [Enter]. Now select 'Create Primary DOS Partition'.

When you're asked, "Do you wish to use the maximum available size for primary DOS partition?", press [Y] if you want all the space on the hard disk to be assigned to drive C. Go directly to Step A below.



Enable support for large disks in fdisk

enable large disk support?" comes up, press [Y]. This will enable FAT32. When the fdisk options appear, choose [3]. Then, the following options are displayed:

"Delete Primary DOS Partition
Delete Extended DOS Partition

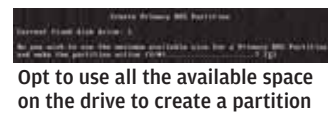


Opt to create a DOS partition or Logical DOS drive

to the main fdisk menu. Then select the 'Delete partition or Logical DOS Drive' menu option. After that, select the 'Delete Extended DOS Partition' option.

Confirm this and press [Esc] to get back to the main fdisk menu. Select the 'Delete partition or Logical DOS Drive' option.

Now select 'Delete Primary DOS Partition'. You'll now see, "What primary partition do you want to delete.?" Press [1]. The next prompt states, "Enter Volume Label". You can choose to leave this blank. Confirm



Opt to use all the available space on the drive to create a partition

Press [N] if you do not want all the space on the hard disk to be assigned to drive C. Enter the size of the partition you wish to create. Press [Esc].

Step A: Select the 'Create DOS partition or Logical DOS Drive' option. Now select the 'Create Extended Partition' option. fdisk will automatically try to create a logical DOS drive.

Enter the size of the second partition you wish to create. If you created your second partition to use the entire Extended DOS Partition, then don't take any action here. If not, repeat Step A until you have used up the rest of the Extended DOS Partition.

Return to the command prompt and reboot. You can now format the partitions you created. Finally, format drive C:, and you are done.

Apple 23-inch Cinema HD Display

Badri Narayan

The high points of my life can be counted on the fingers of half a hand. High up on that list—actually, the only entries on that list—are my brief flings with Apple's 30-inch monster LCD, and a slightly longer relationship with its little sister, the 23-inch Widescreen Cinema HD Display...

Day 1: First Impressions

After my short interaction with the big momma of LCDs, everything else seems tiny in comparison. Ergo, when I first reluctantly laid eyes on the 23-inch screen, I couldn't help but wonder if it would be worth the trouble to set up and use, when I know that this coupling is doomed to separation. In retrospect, I have to admit, continued exposure to top-of-the-line hardware has spoiled us reviewers rotten.

After the trouble I had setting the 30-inch screen up, I've become a little wary of Apple's LCD displays—I decide to use it on a testbed first. Display connected and system powered, the boot up and Windows welcome screens reveal themselves as smoothly as the LCD's metallic bezel.

Encouraged by this quick success, I hotfoot it to my system and perform the requisite rites, setting my Display Properties to 1920 x 1200 in anticipation. A power-down and connection later, the PC is turned on. Then... nothing! I can see the hard disk working furiously as Windows XP ostensibly loads, but all I get is a cold blank stare from the screen, with an occasional wink of its LED, as if taunting me with its reluctance to play ball.

A tense minute of waiting follows, ending in the appearance of the blazing welcome screen, as if light at the end of the tunnel. Success!

Day 8: Apple's On My Desktop!

Time does fly when you're having fun. A week has passed like the blur of a cheetah at full flow, like a McLaren F1 screaming down the home stretch, like Lalu Yadav

when he spots CBI officials. And yet, a small voice at the back of my

head continues to nag me. "Why does the LCD never display the POST or Windows boot screens? Beware the allure of the big screen, my spellbound friend." I have no answer to its questions. All I can do is ignore that little voice and pray that all goes well.

Day 16: So Far, So Good

All has indeed gone very well thus far. The display handles all the resolutions I throw at it with consummate ease. Everything just looks better on an Apple (Hey! Maybe they can use that as a caption in one of their ads). An Apple-standard 170-degree viewing angle, aluminium bezel, all-digital interface, a minimum of buttons—the polished sophistication that is associated with an Apple product. I think I'm in love. And yet...

Day 25: Looks Like The Honeymoon's Over

The inevitable happens. One fine day, XP decides it needs some excitement and crashes. Since my HDD has had this kind of trouble before, I tighten its connections and restart. For five minutes, I look patiently towards the blank screen, hoping for signs of life. No luck. Another restart, yet the situation remains the same. What exactly is going on? Is the BIOS giving me an error message, is Windows displaying a BSOD? Well, there's only one way to find out.

I dig out my 17-inch CRT and hook it up. Two minutes later, the problem is solved and Apple's display stands exposed. Its inability to display the resolution required by the POST and boot screens is a flaw that can only be described as fatal. This deficiency on its part seems unforgivable, especially when work piles up and deadlines loom large.

Day 30: Time To Say Goodbye

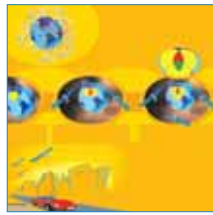
But time is a great healer. When the folks at Apple come calling to claim their baby, I experience a lot more than just a twinge of regret. I consider threatening them with a bad review to buy me more time with the device, but the concept of editorial integrity comes to the rescue at the last moment.

The 23-inch Cinema Display is most certainly a device I would like to call my own. With some judicious saving and patient waiting, the price might just be within my reach. Of course, I'll have to save a little extra for a backup display too...

badri_narayan@jasubhai.com



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Technology For Personal And SoHo Productivity

Jumpstart

Aim For The STARS

Opportunities in the field of multimedia transformed Ranjana Kanti from a simple housewife to an entrepreneur in education

Preethi Chamikutty

When Ranjana Kanti was trying to help her son with his computer exams, he protested, "But Mom, do you know anything about computers?" That gibe is a distant memory for Kanti today, who not only uses computers, but also teaches others how to use them. And not just the

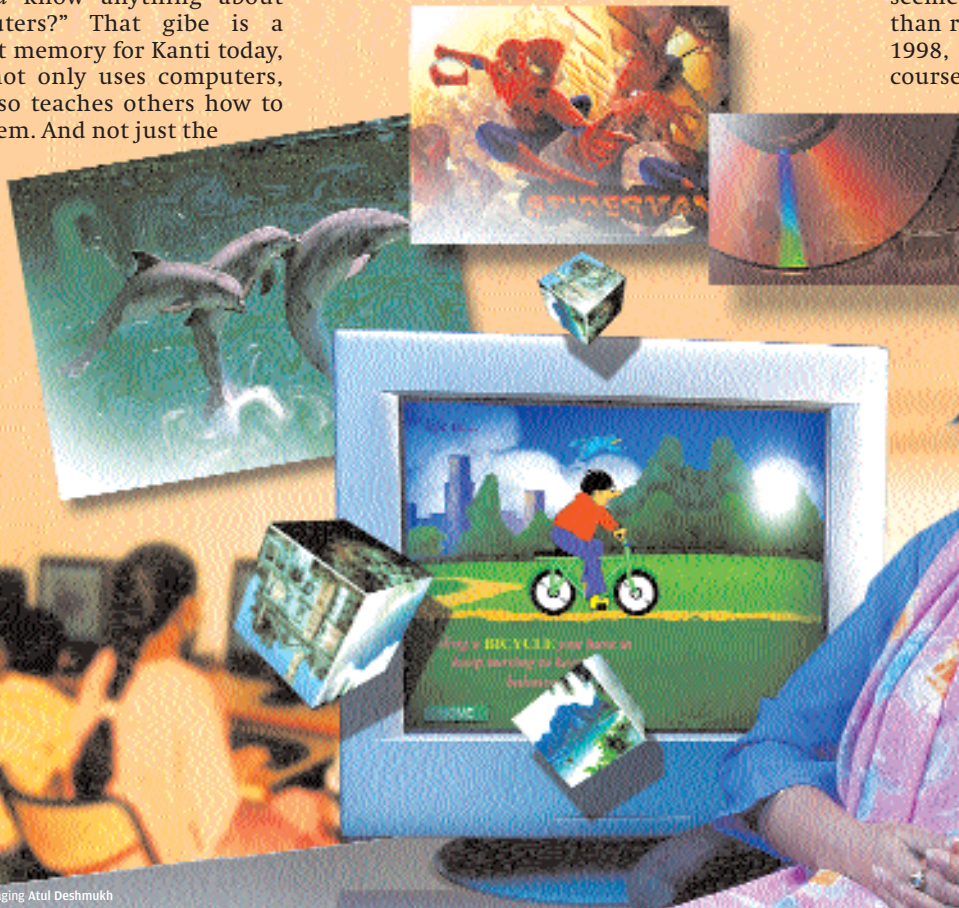
basics: Kanti is into teaching animation and graphic design.

The Humble Housewife

After years of a demanding family life, when Kanti wanted to use her time more construc-

tively, the first thing she thought of was computers, courtesy her son, who had dubbed her computer-illiterate! Kanti also had a lot of free time on her hands and was in a position to take up a full-time career, which seemed a more attractive option than remain a housewife. So, in 1998, she started off with a course in 3D and 2D animation and graphic design.

"Computers is one field where prior education is



Imaging Atul Deshmukh
Photographs Sandeep Patil

The Tools	
<input type="checkbox"/> Adobe Illustrator	<input type="checkbox"/> Premiere Pro
<input type="checkbox"/> CorelDraw	<input type="checkbox"/> SoundForge
<input type="checkbox"/> Adobe Photoshop	<input type="checkbox"/> 3D Max
<input type="checkbox"/> Adobe Imageready	<input type="checkbox"/> Maya 6.0
<input type="checkbox"/> QuarkXpress	<input type="checkbox"/> Maya Unlimited
<input type="checkbox"/> PageMaker	<input type="checkbox"/> Elastic Reality
<input type="checkbox"/> Flash 5 and Flash MX	<input type="checkbox"/> After Effects
<input type="checkbox"/> HTML	<input type="checkbox"/> Animo
<input type="checkbox"/> Dreamweaver	<input type="checkbox"/> Autocad
<input type="checkbox"/> Director	<input type="checkbox"/> Combustion
<input type="checkbox"/> Authorware	<input type="checkbox"/> 3DSOFTimage
<input type="checkbox"/> Premiere 6.5	<input type="checkbox"/> Indesign

1 Col AD

not considered a qualifier.” This graduate in English literature from Delhi University had never handled a computer until the course had begun. But she learnt fast. And she learnt how to send e-mails, create folders and so on at the same time that she was learning multimedia.

“I never took another course for learning the basics of computing—I learnt it all together.” A year later and armed with skills in graphic design, 2D and 3D animation, she was raring to go.

Today—seven years later—Kanti imparts training to 12 students at her academy.

Opportunities Galore

Kanti never sat idle after having completed her training. “I started getting opportunities that not only interested me but also helped me earn a few decent bucks,” she says. Kanti has given guest lectures in colleges such as SIES Nerul, Navi Mumbai, and JJ School of Arts, Mumbai.

Apart from teaching, which is her passion, she has also worked on animation projects for tele-serials such as *Gharwali Uparwali*, *Son Pari* and *Shararat*.

Since such assignments happened only occasionally, Kanti had a lot of free time on hand. And so, when she got the opportunity to be a full-time faculty member with the computer department at Rai

All that is required is a little imagination and the zest to do something

University, she jumped at it.

But after a few months at the college, Kanti, “realised that the teaching focus and syllabus was not industry-relevant. And despite my best efforts, I found I could do nothing to change it. I therefore felt I could not give training honestly, and wanted to move on”.

Enter E-dutainment Unlimited

While at Rai University, Kanti shared her concerns with her husband. “My husband has been very supportive; in fact, it was he who suggested that I start an institute.”

Kanti was sceptical about the idea, but with some support from her husband and a bit of willpower, E-dutainment Unlimited, her academy, began in February 2005.

Although it’s yet to become a profitable venture, the overheads have been taken care of, insists Kanti, who trains her students on Adobe Illustrator, Adobe Photoshop, QuarkXPress, Flash MX, HTML, Macromedia Dreamweaver, Maya and more.

“My students get a free overview of MS Office, the Internet, and e-mail. This is because many of my students are still in school, and may not have been exposed to computers before this. I wouldn’t want them to face the same problems I faced,” says Kanti.

At the institute, students decide what they want to learn. At the end of the training and assessment they give a presentation where the students’ parents are present.

Looking To The Future

“My wish is for multimedia to reach every household in India. All that is required is a little imagination and the zest to do something.”

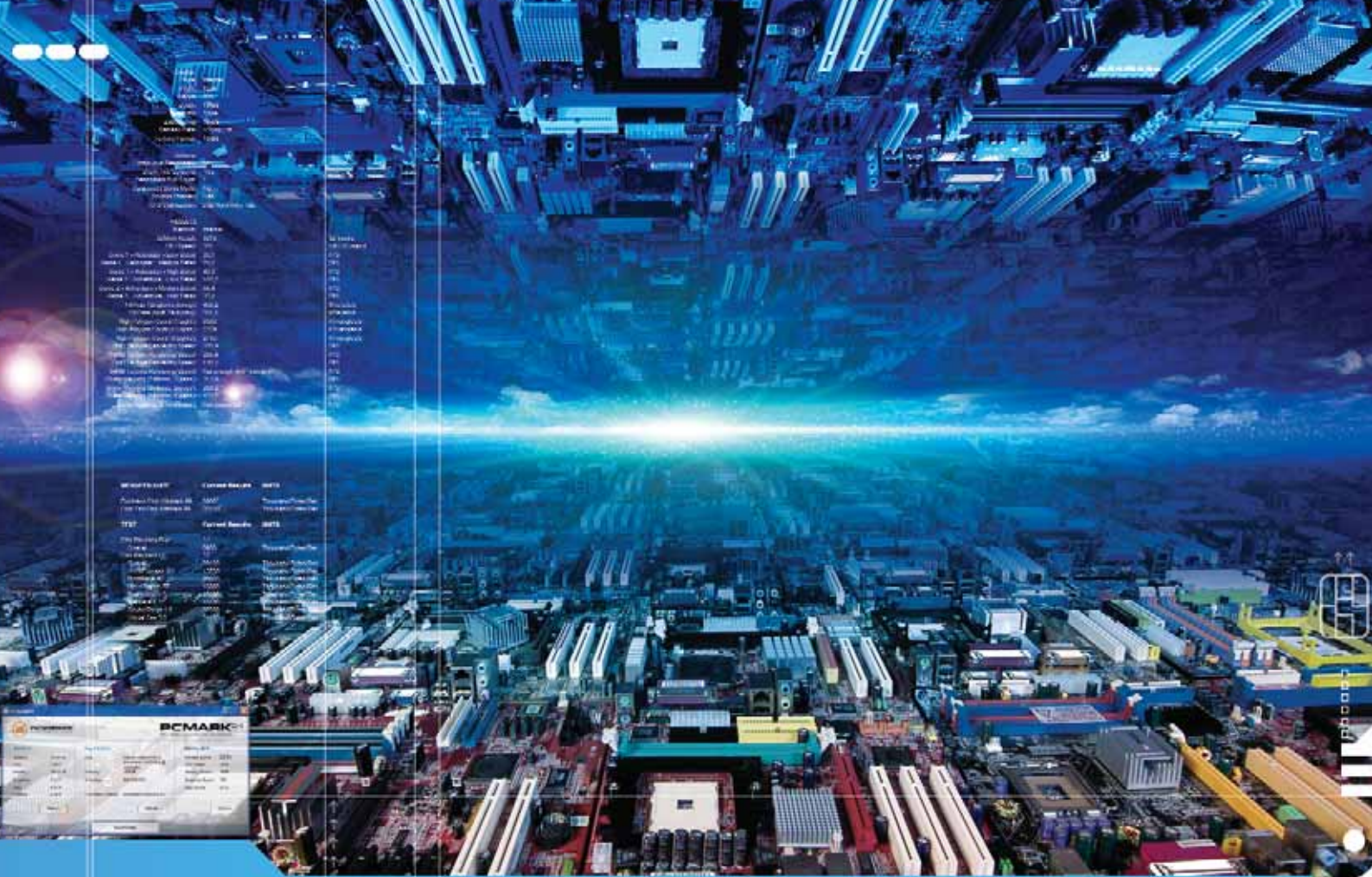
Kanti’s husband is planning to start his own production house in some time, and she hopes to be able to get work from there as well. “My students who are good will never have a shortage of opportunities—there is so much work coming into India, for foreign films, Indian films, TV serials, etc.

“There are options galore. It’s only the individual who can either make it or break it!” ■

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A still from an animation by Kanti



Photograph Jiten Gandhi Imaging Atul Deshmukh

All-A-Board!

Budget motherboards aren't the el cheapo items they used to be. Here's a shootout of all the 'budget' boards out there for the cost-conscious

Varun Dubey and Jayesh Limaye

A computer for Rs 10,000 is still a dream that will take some time in coming to fruition, but there is absolutely no denying that prices of computer components have literally crashed from the exorbitant rates that were being charged some years ago.

Today, you can buy a decent system that will let you run all your office applications and let you browse the Internet, as well as indulge in moderate gaming, for roughly Rs 25,000. We take a look here at budget (within and around Rs 5,000) motherboards, one of the most significant contributors to PC cost.

It is generally seen that falling prices lead to cutting of

corners and a deterioration in the overall quality of the product. The case is slightly different here—all the motherboards we tested, though cheap, were absolutely crammed with features that would give more expensive motherboards a run for their money!

The Groups

We divided the motherboards we received on the basis of the platform they supported (AMD and Intel).

The AMD boards were further divided into those with onboard graphics and those without. This wasn't required for the Intel boards, as all Intel boards (barring the Foxconn 915PL7AE-8S, which is mentioned in a separate box in this article) came with onboard graphics.

THE AMD MOTHERBOARDS

AMD has four chipset manufacturers—ATi, nVidia, SiS and Via—that create motherboard chipsets for it. This obviously leads to a variety of boards with large variances in performance.

Features

In terms of features, the boards were so varied that we had a difficult time grouping them. Some used the 939 socket, others used 754; then some had an AGP port, others had PCI Express (PCIe); but a lot of features were common and can now be taken as standard feature set even though they seemed rather high end a few months ago.

As these are entry-level motherboards, we weren't really expecting too much, but half

these boards were PCIe-based, and all the boards featured SATA support—and most of them had the standard four SATA connectors found on the higher end boards of six months ago!

While buying a motherboard, you must keep in mind its form factor (size). Boards primarily come in two sizes, ATX (the regular big boards requiring a nice big cabinet!) and Micro ATX (tiny boards needing a relatively smaller cabinet, and hence ideal for office environments or places where desk real estate is of prime importance).

The Micro ATX form factor has its own issues during assembly, as a PC built on this form factor will, in all probability, have a small cabinet. A small cabinet implies fewer avenues for proper ventilation and hence heating issues.

This is not to say that Micro ATX is useless. We are just trying to emphasise that while building a system of this form factor, you must be attentive to system ventilation.

You also need to keep in mind socket support. As of now, the most common AMD sockets are the 754 (the Athlon 64 range) and the 939 (the Athlon 64 as well as the Athlon 64 FX range).

939 is the latest socket for the Athlon range (the Opteron runs on 940 and is for servers anyway)

and it is advisable that you go for this socket over the 754, as it will give you a fair bit of future-proofing.

Coming back to the feature set, all the boards we received supported at least 2 GB of DDR 400 RAM, a feat that was commendable for high-end boards a year ago! In fact, the MSI RS480M2-IL and the ASRock 939A8X-M went a few yards further and offered support for a whopping 4 GB of RAM, plenty for all you might want to do for at least the next two years if not more (we wouldn't want to do a Bill Gates by predicting how much memory you might have use for!)



TUL A480M7-V

We had three boards based on the spanking new nForce 4 chipset from nVidia—these were the Winfast NF4K8AB, NF4K8MC and the Gigabyte GA-K8NE, and all these supported 3 GB of RAM—a peculiar number if you ask us.

Onboard sound has improved by leaps and bounds from the 2.1 systems we used to get a couple of years ago

A lot of the boards we received did not have onboard graphics, which is rather strange as these boards are targeted at an audience looking at complete onboard solutions.

All the nForce4 boards, along with the ATI RS 480-based board from MSI (the MSI RS480 M) lacked onboard video, but did feature an x16 PCIe slot, and were hence tested with a PCIe-based nVidia 6200 graphics card. Their AGP counterparts weren't any better, and we received no less than six motherboards without onboard video but featuring an AGP slot. These were tested with an nVidia 6200 AGP card.

Here, we must mention that only the Krypton M7VIG400 featured an extremely dated AGP 4x, whereas all the others had at least AGP 8x.

There were boards which were extremely generous in terms of their video solutions: both the TUL boards came with onboard video as well as an x16 PCIe slot. This feature was also available on the MSI RS480M2-IL.

Onboard sound has improved by leaps and bounds from the 2.1 systems we used to get a couple of years ago. Half the boards we tested featured eight-channel (7.1) audio support, and the other half featured six-channel (5.1) audio onboard, so basically, six-channel has become pretty much a stan-

How We Tested

In order to judge which motherboard was best, they were passed through a series of rigorous benchmarks. As many as five test-bench setups had to be used due to the various types of processor sockets on the motherboards that were tested.

Intel motherboard setups consisted of the Pentium IV 3.6 GHz processor for the LGA 775 socket, and the Pentium IV 3.2 GHz processor for Socket 478 boards. AMD motherboard setups consisted of the Athlon64 FX-53 for Socket 939, Athlon64 3000+ for Socket 754 and Athlon XP 2500+ for Socket 462 boards.

Other than that, the test setups consisted of 512 MB of DDR 400 MHz RAM as the need arose, a 250 GB 7200 rpm SATA Maxtor hard drive, and an nVidia GeForce 6200 PCIe or AGP display card where onboard display was not available. Windows XP Pro with SP1 was freshly loaded along with DirectX 9.0c, and the drivers from the driver CDs provided with the motherboards were loaded.

The various features of the motherboards were noted and rated accordingly. The tests and benchmarks consisted of the following:

For the game tests, we used relatively lower resolutions—640 x 480 and 800 x 600—as the onboard gaming/graphics solutions on these boards, though quite good, were not what we would term as powerful.

Serious Sam Second Encounter: This is a Direct3D game, and it accurately measures the Direct3D gaming subsystem. This game

was chosen because it runs fairly well on systems that use onboard graphics.

Quake 3 Arena: This OpenGL game which is fairly old was used to test the strength of the OpenGL graphics subsystem. This game was chosen because it scales fairly well across various systems.

3DMark 2001 SE: This is an industry-standard Direct3D synthetic benchmark and measures the graphics performance and capabilities of a system. This test gives one an indication about the kind of graphics performance you can expect from the system.

PC Mark 2004: This benchmark from FutureMark measures the CPU, memory, graphics and hard disk performance of the system, and hence is a good system-wide benchmark.

SiSoft Sandra 2005: SiSoft Sandra 2005 consists of benchmark modules that measure CPU, file system and memory performance.

Ziff-Davis Business Winstone 2004: This benchmark suite runs various applications such as WinZip, MSOffice 2002's Word, Excel, PowerPoint and Outlook, and other software, to measure the real-world performance of the system.

Dr. DivX 1.06: This is a video-encoding application that is used to encode DivX video files. Since video encoding is a processor-intensive task, the time taken to encode a file pretty much reflects how fast the processor is. A 100 MB DVD file was encoded to DivX, and the time taken was noted.

standard feature, with eight-channel getting there really fast!

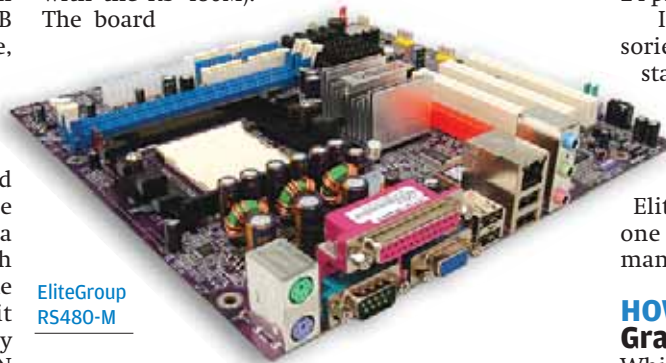
In terms of connectivity options, the MSI RS480M2-IL was slightly ahead of the rest. Like all the others, it featured four USB ports with support for four more, but what it also had, unlike the others, was an onboard FireWire port. The other boards had support for FireWire in terms of pins on the board, but did not have a physical port on the back panel. The board featured a 10/100 Mbps Ethernet port, which was disappointing, as a lot of the other boards provided Gigabit Ethernet. Gigabit Ethernet is very helpful if you are working in a LAN environment, as data transfers would be, theoretically at least, much faster.

The falling prices of storage have not bypassed SATA drives, and these, too, are witnessing frequent price cuts along with capacity increases. We were amazed to see that every board, apart from the Krypton M7VIG400, provided support for at least two SATA connectors—and half the boards had four SATA connectors!

The features list doesn't end here. Half our boards also supported RAID in 0, 1, and 0+1 configurations. The MSI k8mmv did not support RAID, and hence

lost out on the features front.

In terms of pure features, the most feature-rich was the MSI RS480M2-IL (not to be confused with the RS 480M). The board



EliteGroup RS480-M

is based on PCIe, and features support for 4 GB of RAM, has three PCI slots, 5.1 channel integrated audio, four USB ports and even a FireWire port!

It features SATA with RAID (0, 1, 0+1) as well as 10/100 Mbps LAN. The notable thing here is that this board (as well as quite a few of our other boards) requires a 24-pin power supply instead of the regular 20-pin, so you need to be careful when purchasing the power supply.

There is nothing dangerous about plugging a 20-pin power supply into a 24-pin socket, except that you might not be able to give

the board enough power, and might not be able to add other components later due to lack of power—so it's wise to purchase a 24-pin power supply at the outset.

In terms of bundled accessories, all boards came with the standard cables and connectors except the Gigabyte, which also bundled in a USB LED (for fun, we presume). The other exception was the Elite Group RS480M board. This one came with nothing—no manuals, no cables.

HOW THEY FARED Graphics Performance

While testing these boards, we kept in mind that the target audience will not be looking at a gaming solution, so we ran less demanding games (Quake 3 and Serious Sam) at lower resolutions (640 x 480 and 800 x 600).

The boards with onboard graphics did a fairly commendable job, and gave more than playable frame rates in most cases (assuming anything above 30 fps is playable).

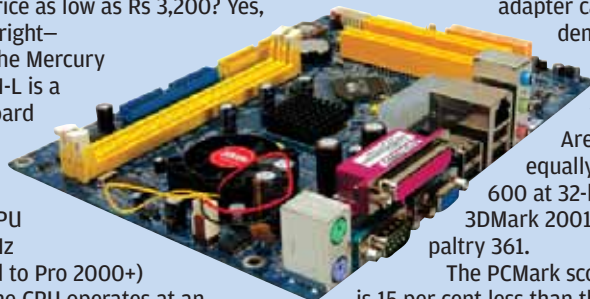
In Serious Sam, the lowest scores were logged by the Asus K8SMX-UAYZ. This SiS 760GX chipset-based motherboard could just manage a paltry 26 fps at a low resolution of 640 x 480 and similar 22.6 at 800 x 600.

The Mercury PVCLE266M-L

Would you believe us if we told you there's a motherboard available with onboard video, audio, LAN and a CPU as well, at a price as low as Rs 3,200? Yes, you read it right—Rs 3,200! The Mercury PVCLE266M-L is a Mini ATX board that comes with the VIA C3 Samuel 2 CPU (CX 800 MHz overclocked to Pro 2000+) onboard. The CPU operates at an FSB of 133 MHz. The board is based on the VIA CLE266 chipset. There is support for two DDR memory modules running at up to 266 MHz. As much as 2 GB of memory is supported.

There are two IDE connectors that can support a maximum of four IDE devices with speeds up to ATA133. Four USB2.0 ports are provided. Connectivity is via a 10/100 LAN onboard.

The onboard VGA is a S3 display adapter with primary 3D functions. The audio device is an AC'97 supporting 6 channels.



Expansion slots are provided in the form of 2 PCI and one CNR slot.

The gaming tests proved that the display adapter cannot aptly handle demanding 3D games. Serious Sam logged a low 5.6, while Quake 3 Arena logged an equally low 17.9 at 800 x 600 at 32-bit colour. The 3DMark 2001 SE score was a paltry 361.

The PCMark score was 451, which is 15 per cent less than that of most other boards we tested. In the SiSoft Sandra CPU benchmark, the CPU was quite low, and the memory benchmark was no different—5.5 in the ZDBench Business Winstone.

The above tests prove that while the motherboard is not well-suited for 3D gaming at all, it can still be used in offices where work is mostly limited to spreadsheets and word processors. It can also be used by cyber-café and computer classes, where its specifications would be more than sufficient to get the job done.

Motherboards Without Onboard Graphics

The newer chipsets from nVidia do not feature support for onboard video. Even the earlier version of nForce3 lacked onboard video and came with an AGP slot. The motherboards based on the nForce4 chipset were the Gigabyte (the GA-K8NE) and the two WinFast boards, the NF4K8MC and NF4K8AB.

After a long sabbatical, ULI (earlier ALi) has come back with a brand new chipset for AMD boards (remember how, earlier, ALi and Aladdin were the chipsets AMD users swore by? Those guys are back!)—the ULI M1689. The board is AGP-based, and does not have onboard video, which makes us think that Ali is a little behind the times here (PCIe is here, guys!).

Moving on and coming to their graphics performances, the first test we used was Serious Sam First Encounter.

The highest scores here were recorded by the WinFast NF4K8MC. This nForce4-based



Winfast
NF4K8MC
Nforce4

The second position was taken up by another WinFast motherboard, the NF4K8AB. It scored 375.6 and 235.5, and easily beat the Gigabyte GA-K8NE, which scored 335.2 and 209.4.

The final graphics benchmark was 3DMark 2001 SE. The story here was the same—the NF4K8MC came first, but not by a long margin. It scored 9350 where the NF4K8AB scored a close 9146 and came in second, just edging out the Gigabyte GA-K8NE, which scored 9125. This was pretty much a tie, as this difference in scores is really insignificant.

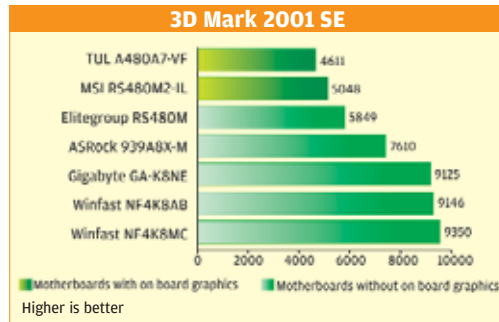
The ASRock did a commendable job and logged 7610 despite being an AGP board. Other AGP boards crashed out: 5849 for the ATi RS480-based Elite Group RS480 M, while the Asus K8N was our worst performer once again, scoring just 4939 3DMarks.

board logged a whopping 185 fps at the lowest settings and 145.2 at 800 x 600.

The second-highest scores were by a WinFast board again, the NF4K8AB at 170.2 and 135.2 respectively. To compare these scores to those of boards with onboard graphics is not entirely correct. These scores are slightly deceiving as these boards were tested with an external graphics card which bumped up the scores.

The Gigabyte GA-K8NE came in second and logged 157.4 and 138.8 respectively, and hence marginally beat the NF4K8AB at the more demanding resolution settings. The rear was brought up by the nForce3-based Asus K8N. This board logged a measly 44 and 35.6 in our tests, and was indeed the worst performer in our tests despite having a 6200 (AGP 8X) to help it out! You must, however, note that even though it scored the lowest in our tests, it still gave a more-than-playable frame rate, and hence must not be discounted entirely.

All boards did a bit too well in our Quake 3 Arena test. The WinFast NF4K8MC raced ahead with a score of 400 and 296.6 for the same resolutions as above. The gaming performance of the nForce4-based motherboards could also be high due to our using an nVidia-based motherboard with an nVidia-based graphics card.



The board, while not being too high on performance, was a mark above the others in terms of features, as it had five PCI slots and eight-channel onboard audio.

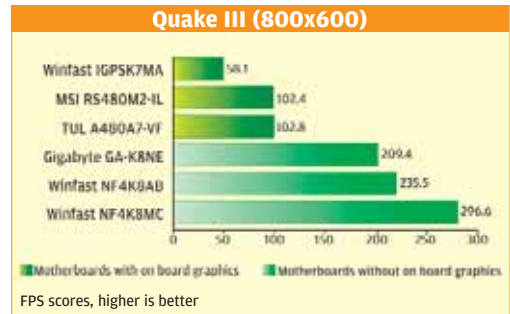
Motherboards With Onboard Graphics

Amongst the motherboards with onboard graphics, the best scorer was the MSI RS480M2-IL. It logged 62.7 and 45.8 for Serious Sam at 640 x 480 and 800 x 600 respectively.

The second here, and by a long way, was the TUL A480A7-VF. It logged 53 and 38.6 respectively. The worst performer was the Asus K8SMX on the SiS chipset, which

logged a very unplayable 26 fps at the lowest graphics settings.

The story was replicated in Quake 3, the RS480M2-IL beating all the others comfortably.



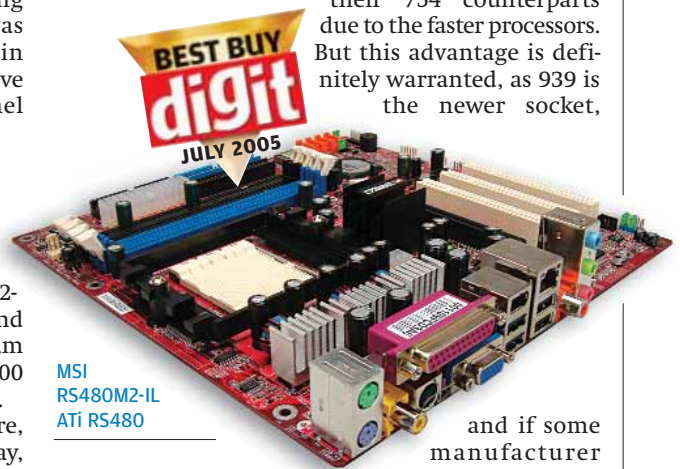
In second place was the TUL A480A7-VF. The loser here was the MSI RS480M. The flip-flops done by boards based on essentially the same chipset (most of these are based on the ATi RS480) really highlighted how important the process for chipset implementation is.

The story continued through 3DMark 2001 SE, where the RS480M2-IL zoomed ahead with a score of 5048. It was comfortably ahead of the TUL A480A7-VF, which scored a commendable 4611.

The worst performer here was the MSI RS480M with a score of 1027. This board really was a surprise, as MSI generally turns out very good motherboards.

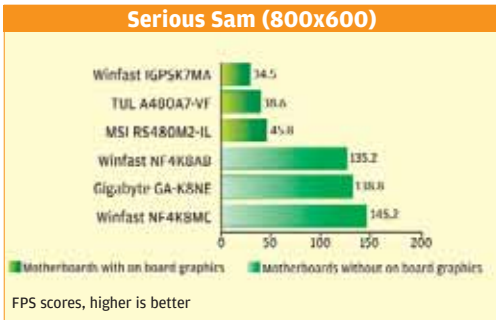
We now come to our first overall system test, PCMark 2004.

Here, it needs to be clarified that the scores depend a fair bit on the processors used, and the 939 boards gained an advantage over their 754 counterparts due to the faster processors. But this advantage is definitely warranted, as 939 is the newer socket,



MSI
RS480M2-IL
ATi RS480

and if some manufacturer can give you a 939 board for the price someone else is giving you a 754 for, then it must reflect in the performance. This is why we did not make further segregations on the basis of processor sockets.



Infographics: Sivanthi. S

Scoreboard		AMD Motherboards With Onboard Graphics							
BRAND	ASUS	Gigabyte	Krypton	Krypton	MSI	MSI	MSI	MSI	
Model	K8SMX UAYZ	GA-K8VM800M	K8M800	M7VIG400	K8MMV	K8M Neo-v	RS480M	RS480M2-IL	
Chipset	SIS 760GX	VIA K8M800	VIA K8M800	VIA KM266	VIA K8M800	VIA K8M800	ATI RS480	ATI RS480	
Interface type(Socket)	754	754	754	462	754	754	754	939	
Features	22.30	24.54	23.32	20.14	25.30	27.96	25.50	28.04	
Memory Speed Supported/Max memory	400/2GB	400/2GB	400/2GB	400/2GB	400/2GB	400/2GB	400/2GB	400/4GB	
Form Factor	MicroATX	Micro ATX	MicroATx	MicroATx	Micro ATX	ATX	ATX	ATX	
Onboard/Graphics Port/Type	Y/8x/AGP	Y/8x/AGP	Y/8x/AGP	Y/4x/AGP	Y/8x/AGP	Y/8x/AGP	Y/x16/PCIe	Y/x16/PCIe	
PCI Slots	2	3	3	3	3	4	3	3	
Onboard Sound (Channels)	6	6	6	6	6	6	6	6	
Onboard FireWire/Firewire b	0	0	0	0	0	0	1	1	
USB									
USB 1.1 (Nos)/USB 2.0 (Nos)	4	4	4	2	4	4	4	4	
Ethernet/Gigabit Ethernet	10/100	10/100	10/100	10/100	10/100	Gigabit	10/100	10/100	
RAID 0, 1, 0+1	0,1	0,1	✗	✗	✗	0,1	✗	0,1,0+1	
SATA	2	2	2	2	2	2	4	4	
SATA RAID	✓	✓	✗	✗	✗	✓	✗	✓	
HyperThreading Support	NA	NA	NA	NA	NA	NA	NA	NA	
Power Supply Type (Pins)	20	20	20	20	20	20	24	24	
Component layout (S05)									
Capacitors near the CPU socket	3	2	4,25	3,5	2	3	3	3	
Placement of IDE and SATA connectors	3	4	3,75	3	3,5	3	4	3,5	
Memory Slots and the lock on the AGP slot	2,5	3	2	2,5	3	3,5	3,5	4	
Graphics slot with locks	5	5	4	4	5	5	3,5	3	
Locking mechanism of the processor	3,5	3,5	3,5	3,5	3,5	3,5	3,5	3,5	
Interference of AGP card with PCI card	2,5	3	3	2,5	3	3	2,5	2,5	
Colour coding of Memory slots and front USB connectors	0	2,5	0	0	2,5	2,5	2,5	2,5	
Package contents									
Manual	✓	✓	✗	✓	✓	✓	✗	✓	
CD's	✓	✓	✓	✓	✓	✓	✗	✓	
Necessary cables	✓	✓	✓	✓	✓	✓	✗	✓	
Other Miscellaneous Features	✗	USB LED Light	✗	✗	✗	✗	✗	✗	
Performance	18.87	19.09	19.05	10.96	19.62	17.94	14.89	22.08	
Serious Sam Second Encounter									
Normal (640x480x32)	26	42.5	43.9	20.1	47.3	32	29.6	62.7	
High (800x600x32)	22.6	29.7	31	14.6	33.8	24.8	8.6	45.8	
Quake3 Arena									
Normal (640x480x32)	69.6	63.1	59.38	33.1	63.9	52.1	45.2	165.6	
High (800x600x32)	61.6	42.1	45.4	21.6	48.2	35.4	16.1	102.4	
3D Mark 2001 SE (patched—for onboard without AGP slot)	1886	2223	2055	625	2230	1796	1027	5048	
PC Mark 2004									
CPU Index	3715	3693	3717	1860	3730	3394	2996	4409	
Memory Index	3367	3383	3392	1165	3426	3268	1865	3714	
Graphics	511	558	603	249	659	507	1025	1166	
Disk Index	4657	4762	4498	3175	4660	4701	3163	4036	
Total Score	2976	2948	2990	1443	3085	2715	2125	3918	
Sisoft Sandra 2005 Professional									
Memory sub-system									
ALU/RAM	2774	2839	2794	1252	2830	2824	1142	2785	
FPU/RAM	2775	2840	2793	1176	2830	2824	1143	2786	
CPU sub-system									
CPU Dryhstone	9170	9132	9171	4550	9098	8186	9126	10951	
CPU Whetstone	4033	3139	3153	1728	3127	2814	3136	3770	
Multimedia—CPU Integer	19060	18949	19034	19456	18840	16993	18940	22730	
Multimedia—FPU SSE	20503	20388	20480	20932	20314	18279	20378	24501	
Disk drive									
Drive Index MB/sec	51	51	51	25	51	51	38	48	
Sequential Read MB/sec	57	57	57	27	57	57	56	57	
Random Read MB/sec	41	41	41	22	63	41	28	40	
Sequential Write MB/sec	57	57	57	26	57	57	56	40	
Random Write MB/sec	44	46	46	21	46	46	47	30	
Average access time	7	7	7	8	7	7	7	7	
Zdbench Business Winstone 2004	23.9	24.2	24.6	13.2	25.2	23.4	17.6	24.4	
Video Encoding (Time in secs)	165	165	163	168	163	182	135	140	
Price Index	7.61	9.74	10.13	15.51	9.74	8.28	5.51	7.04	
Price (Rs)	4992	3900	3750	2450	3900	4590	6900	5395	
Total Score (Out of 100)	48.78	53.37	52.50	46.61	54.66	54.18	45.90	57.17	

AMD Motherboards Without Onboard Graphics

	Tul	Tul	Winfast	ASRock	Asus	Elitegroup	Gigabyte	Winfast	Winfast
	A480M7-V	A480A7-VF	IGPSK7MA	939A8X-M	K8N	RS480 M	GA-K8NE	NF4K8AB	NF4K8MC
	ATI Radeon xpress 200	ATI RS480	Nforce2	ULi 1689	Nforce 3	ATI RS480	Nforce4	Nforce4	Nforce4
	754	754	462	939	754	939	754	754	939
	24.08	26.18	22.32	26.34	24.60	23.90	27.14	25.62	25.62
	400/2GB	400/2GB	400/2GB	400/4GB	400/3GB	400/2GB	400/3GB	400/3GB	400/3GB
	Micro ATX	ATX	Micro ATX	ATX	ATX	ATX	ATX	ATX	ATX
	Y/ x16/PCIE	Y/ x16/PCIE	Y/8x/AGP	AGP 8x	AGP 8x	PCIE	PCIE 16x	PCIE 16x	PCIE 16x
	1	3	3	3	5	3	3	4	4
	8	8	6	8	8	8	8	8	8
	0	1	0	0	0	0	0	0	0
	4	4	4	4	4	4	4	4	4
	Gigabit	Gigabit	10/100	10/100	10/100	10/100	Gigabit	Gigabit	Gigabit
	0,1	0,1,0+1	0,1,0+1	0,1	0,1,0+1	0,1	0,1,0+1	0,1,0+1	0,1,0+1
	4	4	2	2	2	4	4	4	4
	✓	✓	✓	0,1	✓	✓	✓	✓	✓
	NA	NA	NA	NA	NA	NA	NA	NA	NA
	24	24 pin	20 pin	24	20	24	24	24	24
	2.5	3.5	3.5	3.5	3	2.5	3	3.5	3.5
	3.5	3.5	3	3.5	1	3.5	3	3	3
	3	2	2.5	3.5	1.5	1.5	3.5	2.5	2.5
	0	0	2	5	2	4	5	0	0
	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
	4.5	4.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	2.5	0	0	2.5	2.5	0	0	0	0
	✓	✓	✓	✓	✓	✗	✓	✓	✓
	✓	✓	✓	✓	✓	✗	✓	✓	✓
	✓	✓	✓	✓	✓	✗	✓	✓	✓
	✗	✗	✗	✗	✗	✗	✗	✗	✗
	19.08	21.20	18.92	25.59	21.50	24.74	27.17	27.47	32.36
	45.3	53	42.6	132.4	44	66.9	157.4	170.2	185.6
	30.8	38.6	34.5	101.5	36.5	49.6	138.8	135.2	145.2
	60.9	158.3	84.1	265.9	120.7	188.3	335.2	375.6	400.4
	45.2	102.8	58.1	192.5	99.5	115.7	209.4	235.5	296.6
	2105	4611	2780	7610	4939	5849	9125	9146	9350
	3595	3662	3704	4348	3777	4436	3713	3744	4497
	3206	3336	2518	3223	3610	3744	3597	3596	5574
	630	1085	673	1435	623	1192	1655	1661	2567
	4675	4674	4587	4628	4724	4069	4721	4807	4738
	2995	3408	3211	3810	3185	3914	3627	3588	4292
	2829	2800	2571	2209	3096	5618	3083	3085	6009
	2829	2800	2370	2208	3095	5570	3047	3087	6024
	9092	9192	9072	11037	9202	11024	9114	9199	10948
	3130	3159	3446	3794	3162	3782	3127	3157	3761
	18845	19081	20623	22912	18976	22885	18883	19066	22695
	20254	20525	21919	24644	20547	24620	20316	20541	24408
	51	51	51	51	51	47	51	51	51
	57	57	57	57	57	57	57	57	57
	41	41	41	40	41	41	40	41	41
	57	57	57	57	56	30	57	57	57
	46	46	46	46	47	30	46	46	46
	7	7	7	7	7	7	7	7	7
	24.5	25.5	23.2	28.8	26.6	28.3	25.6	26.3	30.3
	160	165	177	160	158.35	132	145.16	159	130.66
	8.31	8.03	11.71	10.15	7.76	7.60	7.76	9.28	8.74
	4575	4730	3245	3745	4900	5000	4900	4095	4350
	51.47	55.41	52.95	62.08	53.86	56.24	62.06	62.37	66.72

AGP: Short for Accelerated Graphics Port, this is a port made exclusively for graphics cards and is significantly faster than PCI. There are different AGP standards based on speed, such as 1.0 (1x/2x), 2.0 (2x/8x) and 3.0 (4x/8x). The AGP 1x interface operates at a clock speed of 66 MHz, AGP 2x operates at 133 MHz and so on—the multiple of the AGP device can be used to calculate the clock speed of its interface.

BIOS: The Basic Input Output System is a program located on the CMOS chip located on the motherboard. The BIOS controls the primary functions of the hardware and facilitates low-level communication between the OS and the hardware. The BIOS can be upgraded to provide additional functionality.

SDRAM: Short for Synchronous Dynamic RAM, this is a type of memory that is synchronised with the FSB of the processor. It is available in various speeds such as 66 MHz, 100 MHz and 133 MHz.

DDR RAM: Double Data Rate RAM is a type of memory that handles data at twice the speed of the older SDRAM. DDR RAM typically operates at 266 MHz, 333 MHz and 400 MHz effective speeds, while the actual speeds are 133, 166 and 200 MHz respectively.

DDR2 RAM: Double Data Rate 2 RAM is a memory type based on chips designed to run at speeds higher than that of DDR RAM, such as 533 MHz and 667 MHz. Very few motherboards right now support DDR2 RAM. In our tests this month, only the Mercury PI915GVM supported it.

Dual Channel: When two RAM modules are plugged into two slots marked for two different memory channels, then, theoretically, the data flows at twice the normal rate through the RAM. This is known as a dual-channel memory configuration.

FSB: The Front Side Bus speed is the clock speed at which different components in a computer speak to the CPU. The CPU's FSB is very important, and changing it can dramatically affect the overall performance of the computer. Increasing it can improve system performance but will also void your CPU's warranty, and may sometimes cause damage to the CPU due to excessive heat generated at higher clock speeds. Decreasing the FSB reduces performance,

but may be necessary when the highest FSB supported by the motherboard is lower than the default FSB of the CPU.

IDE: IDE stands for Integrated Drive Electronics, and is a standard interface for hard drives, optical drives and other physical storage devices. It is also known as ATA, which stands for Advanced Technology Attachment. ATA33, ATA66, ATA100 and ATA133 are its various types based on the transfer speed. For example, ATA100 means that the theoretical data transfer rate of the interface is 100 MB/s. It uses a 40 pin connector cable that may consist of 40 or 80 conductors.

Multiplier: This is the ratio between the CPU speed and the FSB speed. As an example, a CPU with an FSB of 200 MHz and a multiplier of 18 will work at $200 \times 18 = 3,200$ MHz.

Northbridge: This is a chip on the motherboard that controls the FSB and memory. This is the largest chip on the motherboard and is normally covered by a heat sink, and sometimes actively cooled by a fan.

PCI: Peripheral Component Interconnect is a standard that defines the connection between the motherboard and expansion cards. The data transfer rate of PCI bus can be up to 133 MB/s.

PCI-Express: Peripheral Component Interconnect Express is a new PCI standard that transfers data at speeds equivalent to AGP 16x, which is roughly 4.3 GB/s.

RAID: Abbreviation for Redundant Array of Independent Disks, RAID is a software or hardware configuration that employs two or more drives in combination for fault tolerance and performance.

Fault tolerance is a method used to safeguard data by writing the same data to two different partitions or different hard drives so that a redundant copy is available in case the first gets corrupted or destroyed. This involves two write operations at a time, so naturally, system performance suffers. RAID 0, 1 and 0+1 are the commonly used types of RAID.

RAID 0: This involves striping only, and there is no data redundancy. It has the best performance but no fault tolerance. Striping is a technique in which the drives' storage space is partitioned into units

ranging from 512 bytes to several megabytes. These stripes are interleaved and addressed in order.

RAID 1: This type of RAID implementation is also known as disk mirroring, which involves at least two drives to duplicate data. Striping is not involved here. This offers the best ratio of performance to fault tolerance.

RAID 0+1: This combines the best features of RAID 0 and 1. In this type of RAID, two pairs of striped drives are mirrored together to provide fault tolerance. Thus, it requires four hard drives to implement.

Matrix RAID: This is a technology developed by Intel, which achieves what RAID 0+1 achieves using only two hard drives. It does so by creating two separate volumes in an array of two hard disks. It enables you to separate the two-disk Array into two volumes, as if there were two separate sets of hard disks.

SATA: Also abbreviated as S-ATA, SATA is short for Serial ATA, which is an interface for physical storage devices such as hard drives. SATA uses a serial technology in which data is moved in a single stream, which is done much faster than a parallel interface because unlike the parallel interface, a serial interface is not tied to a particular clock speed. The transfer rates for SATA begin at 150 MBps, and for SATA II it is 300 MBps.

Southbridge: This is the chip on the motherboard that controls all the onboard devices including the IDE bus and PCI bus. This is the second-largest chip on the motherboard and is sometimes covered by a heat sink.

CNR slot: CNR is an abbreviation for Communications/Network Riser, and the CNR Slot was developed by Intel. It is a slot on the motherboard that allows audio and modem devices created for this standard to be plugged into it.

OpenGL: Short for Open Graphics Language. It is a vendor-neutral, multi-platform programming language used mainly to create 3D applications and games. It was developed by SGI.

Underclocking: Reducing the clock speed of the CPU. It is achieved by either reducing the FSB speed or the multiplier of the CPU.

The winner in this round was once again the MSI RS480M2-IL, which stamped its authority over all the other boards with a thumping 3918 overall score.

The second-fastest board, again, the TUL A480M7-VF, could manage 3408, significantly less than the MSI board.

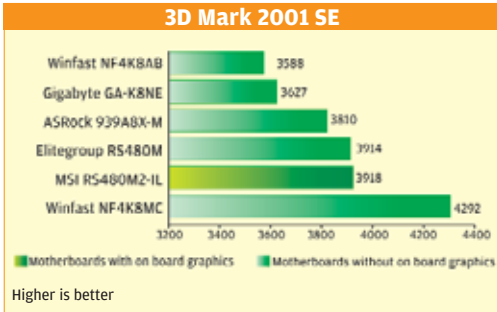
The MSI board's score here

was the second-best of all the AMD boards and was beaten only by the WinFast NF4K8MC, which had the advantage of a 3D card.

The rear was again brought up by the MSI RS 480-M which managed a mere 2125, almost half of what the winner in this test scored!

Other Synthetic Benchmarks

We then benchmarked all these boards on our trusted SiSoft Sandra 2005 Professional and measured various sub-system performances. This test gives an individual breakup of performance of the various aspects of the system.



Again, for the ALU/RAM, the 939 socket processors got a bit of an advantage and therefore clocked higher scores. However, this time, the Gigabyte GAK8VM800 board stole MSI RS480M2-IL's shine and beat it quite comfortably, scoring 2839, where the MSI board could manage just 2785, which was the fourth-fastest, and which was superseded by both the TUL motherboards.

The FPU/RAM scores were identical (as they should be) to the ALU/RAM scores, and hence the standings were the same.

Again, in the CPU subsystem benchmarks, those with a 939 processor benefited and clocked fairly higher than their socket 754 counterparts.

The ASRock 939A8x-M and the Elite Group RS480M motherboards, out of the blue, totalled the competition by scoring a massive 11037 and 11024 to comprehensively beat the WinFast NF4K8MC, the third-placed board. The MSI RS470M2-IL did not feature even in the top six, and did rather badly in the CPU subsystem tests.

The ASRock completely dominated these tests and scored the highest in all the tests except CPU Whetstone where it came second with a score of 3794—second only to the Asus K8SMX, which did marginally better and scored 4033.

The WinFast NF4K8MC scored 3761 and did not even feature in the top three here.

The file system benchmark gives us the data transfer speed from the system to the hard drive and back. The scores were more or less the same throughout this test, except for the MSI RS480M, which scored just 38 on the drive index figure, and the MSIRS480M2-IL, which scored 48. All the others got 51.

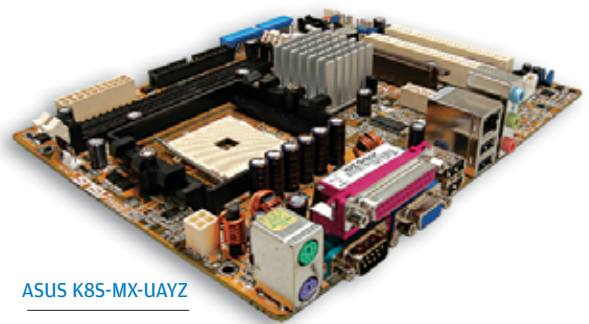
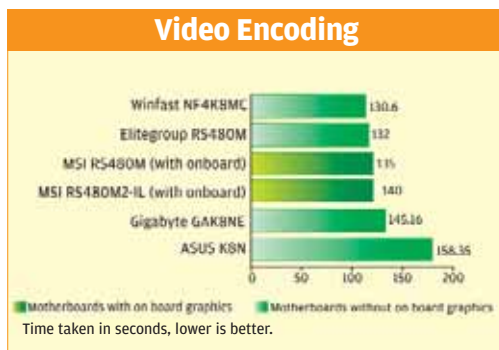
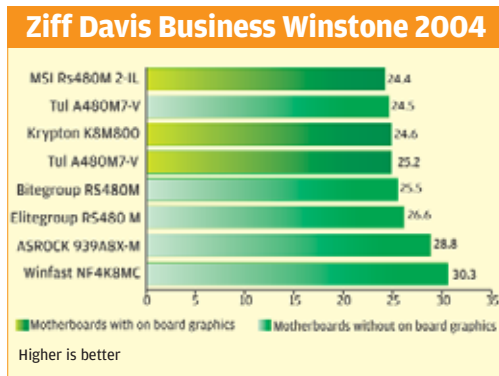
The Krypton M7VIG scored rather poorly here with 25, but

that's because it had an IDE drive and did not support SATA. The WinFast NF4K8MC scored the maximum in this test and really started to shine from here on.

Business Winstone is almost an industry standard while trying

to measure the performance of a system in everyday office use. Since this is an entry-level motherboard, it won't really be used in gaming, and hence this test is extremely important as it directly targets the segment that these boards will cater to.

The winner here was the WinFast NF4K8MC, which scored an amazing 30.3, a score you would be hard pressed to get out of even higher-end boards. In fact, the top three scores here were quite high, with the ASRock coming in second with 28.8 and the Elite Group RS480M coming in third, scoring 28.3. The MSI RS480M2-IL lost out in a big way, scoring a minuscule 24.4!



ASUS K8S-MX-UAYZ

To get a taste of their real performance, we decided to do a final test and manually clocked the time it took the boards to encode a video file. Encoding a video file is again processor-dependant, and hence the 939-pin boards benefited.

The winner, again, was the WinFast NF4K8MC, which converted the file in just 130 seconds, compared to 132 seconds taken by the Elite Group RS480M. Surprisingly, the MSI RS480M, despite being a 754 processor, clocked 135 seconds. The MSI RS480M2-IL clocked 140, which is poor.

The reason we are emphasising the 10-second difference is because the video file used was a relatively small 100 MB. If ever you try encoding a larger file—say a movie or a home video—it would take significantly longer on the RS480M2-IL than it would on the NF4K8MC.

Needless to say, if you're into any sort of image editing or manipulation, you're better off with the NF4K8MC.

Conclusion

Clearly, the winner here is debatable. Debatable or different, depending on the kind of usage you would put your computer through, and your requirements.

If you would just like to have an entry-level motherboard that gives you everything onboard and don't want to do too many fancy things, the best solution for you would be the MSI RS480M2-IL.

This is a nicely balanced board with all the required features but not necessarily the most advanced features (for example, it has six-channel audio, which is just fine, instead of eight). Hence the MSI-RS480M2-IL gets the *Digit* 'Best

Foxconn 915PL7AE-8S

Foxconn is a new entrant to the motherboard market in India, and they sent us three boards to test. The 915PL7AE board is based on the Intel 915PL chipset and was taken out of the contest because it was the only board for the Intel platform that did not feature onboard video.

This motherboard has an LGA 775 socket CPU interface. It supports up to 2 GB of DDR 400 MHz memory in dual-channel configuration. There are four SATA connectors and they are configurable as RAID 0, 1, 0+1 as well as Matrix RAID. Onboard Gigabit LAN is also provided. But there is only one IDE connector.

There are four USB2.0 ports. The onboard audio solution is an 8-channel based on the Realtek chip. There are three PCI slots and a PCIe x1 slot provided for expansion. The layout of this deep-blue coloured board is also quite spacious.

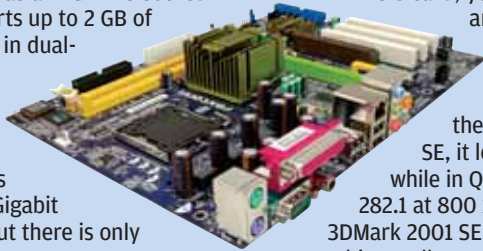
As mentioned before, there is no onboard video. But then there is a PCIe x16 slot. In addition to this, there is a F.G.E. (Fox Graphics Extension) slot that is AGP 8x compliant.

This board is a very good option, especially if you are planning to buy a motherboard as an upgrade to your machine. If you have an AGP card, you can keep using it—there will be no need to invest in a PCIe card. You also have an upgrade option for the future, and if and when you wish to buy a PCIe card, you can just plug it in and get going.

On the performance front, this motherboard leads the pack. In Serious Sam SE, it logged a score of 133.1, while in Quake 3 Arena, it was 282.1 at 800 x 600 at 32-bit colour. In 3DMark 2001 SE, the score was 9101.

This excellent performance must be attributed in part to the nVidia 6200 256 MB PCIe card used in the test. However, you can't discount the fact that the motherboard plays an important role in these scores.

In SiSoft Sandra, too, this motherboard was better than the others. Its PCMark score was 4,945. In the ZDBench Business Winstone, it scored a decent 26.1. You can conclude that the board is very good for office work and gaming alike. At Rs 4,290, this board is a real steal!

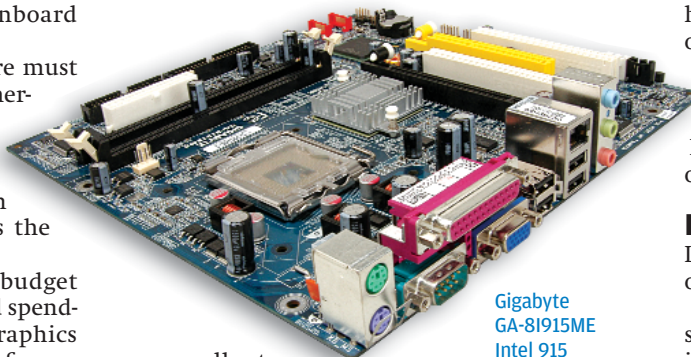


Buy Gold' in the AMD onboard graphics category.

A special mention here must be made of the TUL motherboard. This board may not be an outright shiner, but if you don't want to spend more than Rs 4 to 4.5k, then this is the perfect choice for you.

If you have a budget constraint but don't mind spending a little extra on a graphics card (roughly Rs 4,000 for an nVidia 6200 or the ATi-based X300), then the best solution for you would be the WinFast NF4K8MC. This board has the most surprising performance that we have seen in a while from a board in this category. It gives

you excellent features (almost everything you would find anywhere else, except SLI!), performance and above all, an unbeatable price. So, if you don't mind spending that little bit extra, look no further!



Gigabyte GA-81915ME Intel 915

The price, performance and features contribute towards making the WinFast NF4K8MC the Digit 'Best Buy Gold' in the 'AMD Without Onboard Graphics' category.

We would like to make a mention here and say that if you need to choose between two boards, go for one with a 939 socket. Even if the board costs marginally more now, it will more than make up for it later when you want to upgrade to a faster processor.

THE INTEL MOTHERBOARDS

Let us now have a look at what the Intel platform had to offer. Intel motherboards traditionally used to be driven by chipsets manufactured by Intel itself, and occasionally by Via. But today, even entry-level motherboards are based on chipsets manufactured by Intel, Via, SiS and ATi. Like AMD, each chipset manufacturer has tried to cram every possible feature that it could.

Just as we saw in the AMD boards, despite these boards having been labelled as 'entry-level', many of the features that had previously been available only in high-end boards have become standard in these boards. The features we are talking about are SATA, RAID, FireWire, Gigabit LAN, etc. Many of the boards also featured PCIe.

Features

Let's take a look at the features offered by these boards.

A majority of the boards supported the LGA 775 socket interface which, apart from being the latest from Intel, is also a lot safer, as the pins which traditionally used to be on the CPU are now on the socket. The locking mechanism is also sturdy, and the heat-sink fan assembly is very easy to lock onto the moth-

BEST SELLER

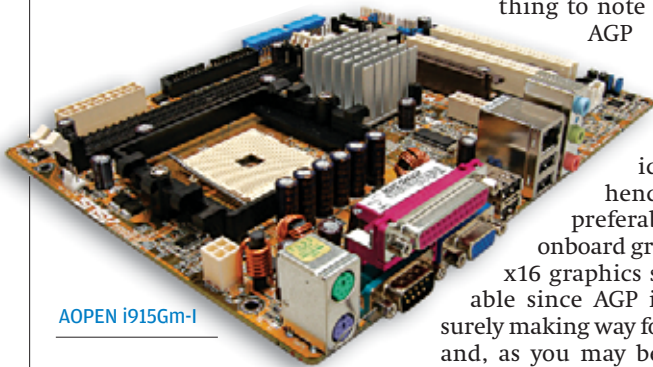
The classic 478 Pin solution that comes with Intel® 845/IHC4 chipset.

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Supported by AC97 audio codec it can support 8 channel audio systems for a decent Surround Sound Experience.

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AOPEN i915Gm-I

onboard and it locks firmly too, ensuring that the heat-sink and the CPU remain in full contact. In the Socket 478 interface, the heat-sink and fan assembly mounting is a comparatively cumbersome thing to do.

Of the chipsets available for this platform, no points for guessing this one—Intel dominated across the range of the motherboards. The Intel chipsets ranged from the ageing Intel 845 to the newer Intel 915GV. We had to underclock the CPU so we could test the Intel 845 motherboards, since they did not support the 400 MHz FSB that our test CPU Pentium 4 3.2 MHz sported.

That should give you an idea of how dated the 478 socket is. Intel has already stopped making processors for socket 478, and any stock you can find is leftover stuff.

On the memory support front, we found that the Asus P5P800-MX, the AOpen i915Gm-I, the Gigabyte GA-8I915GV and the GA-8IG1000, as well as the boards that featured the ATi RS350 and RS400 chipset, supported a maximum of 4 GB of DDR 400 MHz RAM.

The Mercury PI915GVM based on the Intel 915GV chipset was the only one to offer two DDR2 memory slots, supporting a maximum of up to 2 GB of 533 MHz RAM, in addition to two DDR slots.

The Intel 845-based boards were FSB limited to 266 MHz, and hence supported up to 2 GB of 266 MHz DDR memory.

Most of the boards supported the dual-channel memory configuration. This makes a difference in memory-intensive applications such as photo-editing applications, and dramatically reduces loading times due to the high available bandwidth.

A majority of the boards had AGP 8x slots, and quite a few of them also had PCIe x16 slots. The

thing to note is that while AGP 8x slots provide an option to upgrade the graphics card and hence, is always preferable over onboard graphics, a PCIe x16 graphics slot is preferable since AGP is slowly but surely making way for PCI-Express and, as you may be aware, PCI-Express graphics cards are already available in the market and will offer a better performance than their AGP counterparts once games utilising their complete bandwidth and capabilities are launched.

Some motherboards such as the Gigabyte GA-8I915GV had only onboard graphics. It had neither an AGP slot nor a PCIe slot and provided no graphics upgrade facility. This is not a good thing, and such motherboards should be avoided unless you are very sure you will not want to go in for better graphics later.

In contrast, motherboards such as the Foxconn 915PL7AE-8S boasted of a PCIe x16 slot in addition to a F.G.E. 8x (Foxconn Graphics Extension) slot, which is compatible with the AGP 4x/8x specifications and lets you plug in a standard AGP card. Thus you are free to choose between an AGP or PCIe graphics card as it suits you. Or, if you are upgrading to this board, you can plug in your old AGP card, and you won't have to invest in a new card. However, this board did not come with onboard graphics.

One motherboard, the ASRock 775Dual-915GL, provided an A.G.I. 8x interface that is compatible with the AGP 8x interface in addition to the A.G.I. Express interface, which is compatible with PCIe x4. A DirectX 9.0c-compatible onboard Intel Extreme Graphics 2 is also present, which is quite decent in terms of performance compared to the older Intel Extreme Graphics.

The speciality of this board is that it lets you plug in both an

AGP as well as a PCIe card at the same time, thus facilitating a multi-monitor working environment. This is just an additional feature which might not be of much value today, since multi-monitor display cards can do the same job at the cost of a single display card.

Of the onboard display cards, the ones from ATi, especially the RS400 from HIS, really shone bright because they provided not only commendable performance for onboard graphics, their image quality was also quite good.

On the audio front, none of the motherboards came with minimum of six-channel audio.

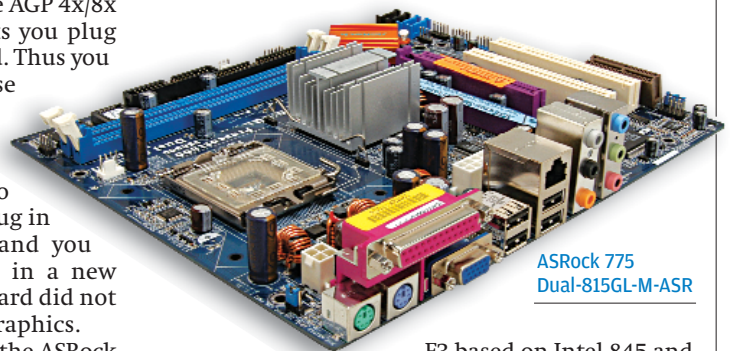
The ASRock 775Dual-915GL, Foxconn 915PL7AE-8S, Gigabyte GA-8IG1000 and GA-8I915GV came with as many as 7.1 channels. What this means is that these sound systems are enough to satisfy your most demanding needs, be it in gaming or watching DVDs. With such an onboard system available, one would not find it necessary to invest in a separate sound card.

SATA, which has so far been considered high-end, has finally made its entry into the budget segment. All the boards sported SATA ports, with half the lot having four and the remaining having two ports.

The Gigabyte 8TRS 350MT even supported RAID. Two motherboards, the HIS M48-



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Designed specially to support the 754-pin AMD® Athlon® 64 processor
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Supports upto 2 GB of DDR SDRAM
Integrated with Realtek® ALC855 6 Audio Channel audio codec to deliver surround sound experience



ASRock 775 Dual-815GL-M-ASR

F3 based on Intel 845 and the HIS FA61 based on Via P4M800 did not have SATA ports. From a future upgrade perspective, having a SATA port is necessary, since the slower and smaller IDE drives will soon become a thing of the past.

Only the MSI RS350M-ILSR had a FireWire port. A FireWire port is a good thing to have especially if you are into video capturing, because many video

Scoreboard									
Intel Motherboards									
BRAND	AOpen	ASRock	ASUS	Foxconn	Foxconn	Gigabyte	Gigabyte	Gigabyte	Gigabyte
Model	i915Gm-I	775Dual-915GL	P5P800-MX	865M01-G-6LS	915PL7AE-8S	GA-8I915ME	GA-8IG1000-G	GA-8I915GV-MF	GA-8TR5 350MT
Chipset	Intel 915G	Intel 915G	Intel 865GV	Intel 865G	Intel 915PL	Intel 915	Intel 865G	Intel 915GV	ATI R5350
Interface type	LGA 775	LGA 775	LGA 775	Socket 478	LGA 775	LGA 775	Socket 478	LGA 775	Socket 478
Features	27.1	22.1	20.42	22.94	25.86	19.46	27.72	22.76	25.82
Memory Speed Supported/Max memory	400/4GB	400/2GB	400/4GB	400/2GB	400/2GB	DDR400/2GB	400/4GB	400/4GB	400/4GB
Form Factor	Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX
Onboard/Graphics Port/Type	Y/x16/PCIE	Y/8x/AGP	Y/8x/AGP	Y/8x/AGP	PCI-E x16/AGP 8x	Y/x16/PCIE	Y/8x/AGP	Y/x16/PCIE	Y/8x /AGP
PCI Slots	2	2	3	3	3	2	5	2	3
Onboard Sound (Channels)	7	8	6	6	8	6	8	8	6
Onboard FireWire/Firewire b	0	0	0	0	0	0	0	0	0
USB									
USB 1.1 (Nos)/USB 2.0 (Nos)	4	4	4	4	4	4	2	4	4
Ethernet/Gigabit Ethernet	10/100	10/100	10/100	10/100	Gigabit	10/100	Gigabit	Gigabit	10/100
RAID 0, 1, 0+1	✘	✘	✘	✘	0,1,0+1	✘	✘	✘	0,1
SATA	4	4	4	2	4	2	2	4	2
SATA RAID	✘	✘	✘	✘	✓	✘	✘	✘	✓
HyperThreading Support	✓	✓	✓	✓	✓	✓	✓	✓	✓
Power Supply Type (Pins)	24	20	24	20	24	24	20	24	20
Component layout (S05)									
Capacitors near the CPU socket	4	4	3.5	3.5	4	4	3	4	3.5
Placement of IDE and SATA connectors	4	4	3	3.5	2.5	3	3	4	3.5
Memory Slots and the lock on the AGP slot	4	2.5	3	3	3	2.5	3.5	3	3
AGP slot with locks	5	0	0	5	5	5	5	0	5
Locking mechanism of the processor	4	4	4	3.5	4	4	3.5	4	3.5
Interference of AGP card with PCI card	4	3	3	3	4	3	3	0	3
Colour coding of Memory slots and front USB	2.5	0	2.5	0	0	0	2.5	2.5	2.5
Package contents									
Manual	✓	✓	✘	✓	✓	✘	✓	✓	✓
CD's	✓	✓	✓	✓	✓	✓	✓	✓	✓
Necessary cables	✓	✓	✘	✓	✓	✘	✓	✓	✓
Other Miscellaneous Features									
Performance	22.77	22.61	24.73	22.14	31.05	23.71	22.29	23.52	23.79
Serious Sam Second Encounter									
Normal (640x480x32)	43.5	44.2	54.3	50.9	152.4	45.9	42.1	45.7	54.6
High (800x600x32)	39.6	40.1	47.4	37.8	133.1	41.8	34.9	41.4	47.5
Quake3 Arena									
Normal (640x480x32)	133.5	135.5	151.4	84.1	370.7	148.2	99	140.2	178.5
High (800x600x32)	130.7	132.4	125.1	57.4	282.1	142.6	78.4	135.8	131.7
3D Mark 2001 SE	5106	5115	5762	2812	9101	5516	3096	5301	5414
PC Mark 2004									
CPU Index	4284	4311	4815	4839	5481	4644	4763	4589	4429
Memory Index	4658	4316	5176	4369	5154	4807	4384	4756	4080
Graphics	1026	1028	1054	581	1669	1043	657	1039	1520
Disk Index	4876	4877	4793	4909	4866	4222	4195	4919	4835
Total Score	3660	3452	4508	3820	4945	3907	4043	3928	4344
Sisoft Sandra 2005 Professional									
Memory sub-system									
ALU/RAM	4670	4050	4564	4303	4524	4541	4213	4641	4008
FPU/RAM	4659	4055	4550	4315	4537	4543	4212	4638	4002
CPU sub-system									
CPU Dryhstone	8139	10412	10417	9850	10454	8715	9811	8718	9779
CPU Whetstone	3342	3361	4309	4014	4297	3591	4018	3571	4023
Multimedia - CPU Integer	19750	19910	24255	24584	25476	21166	24733	21183	24753
Multimedia - FPU SSE	26125	26321	28676	35115	33835	27971	34645	28198	34370
Disk drive									
Drive Index MB/sec	46	46	47	47	47	51	51	46	46
Sequential Read MB/sec	57	57	57	57	57	57	57	57	56
Random Read MB/sec	26	26	30	30	27	41	41	27	27
Sequential Write MB/sec	56	56	56	57	56	57	57	56	56
Random Write MB/sec	43	45	47	46	46	46	45	47	47
Average access time	20	20	15	19	20	7	7	20	18
Zdbsch Business Winstone 2004	21.1	21.8	25	22.6	26.1	21.1	21.9	21.6	22.6
Video Encoding (Time in secs)	150	146	152	142	120	142	138	145	142
Price Index	8.00	9.25	8.41	10.20	8.86	9.74	9.05	7.60	9.50
Price (Rs)	4750	4110	4520	3725	4290	3900	4200	5000	4000
	57.87	53.95	53.55	55.28	65.77	52.91	59.05	53.88	59.11



Intel Motherboards

HIS	HIS	HIS	HIS	Mercury	Mercury	MSI	MSI	MSI	Mercury
FA60	M48-F3	FA61	RS400	PI865GVM-AGP	PI915GVM	RS350M-ILSR	915GVM-V	PM8M2-V	PVCLE266M-L
Intel 915G	Intel 845GL	VIA P4M800	ATI RS400	Intel 865GV	Intel 915GV	ATI RS350	Intel 915GV	VIA P4M800	VIA CLE266
LGA 775	Socket 478	LGA 775	LGA 775	Socket 478	LGA 775	Socket 428	LGA 775	LGA 775	NA
24.5	20.7	21.58	26.74	23.1	26.62	21.38	21.9	20.7	15.06
400/2GB	266/2GB	400/2GB	400/4GB	400/3GB	DDR I/II 400/533 2GB	400/4GB	400/2GB	400/2GB	266/2GB
Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX	Micro ATX
Y/x16/PCIE	Y/8x/AGP	Y/8x/AGP	Y/x16/PCIE	Y/8x/AGP	Y/x16/PCIE	Y/8x/AGP	Y/8x/AGP	Y/8x/AGP	Onboard S3
2	2	2	2	3	2	3	2	2	2
6	6	6	6	6	6	6	6	6	6
0	0	0	0	0	0	1	0	0	0
4	2	2	4	4	4	4	4	4	4
10/100	10/100	10/100	10/100	10/100	10/100	10/100	10/100	10/100	10/100
✘	✘	✘	✘	✘	✘	✘	✘	✘	✘
2	✘	✘	4	2	4	2	4	2	✘
✘	✘	✘	✘	✘	✘	✘	✘	✘	✘
✓	✓	✓	✓	✓	✓	✓	✓	✓	✘
24	20	20	24	20	24	20	24	20	20
3.5	3	3.5	4	3.5	3.5	3	4	4	NA
3	3.5	3.5	4	3.5	3	3	4	4	2.5
3	2.5	2.5	4	3	3	3.5	2.5	2.5	NA
5	5	5	5	5	5	5	0	0	NA
4	3.5	4	4	3.5	4	3.5	4	4	NA
4	4	4	4	3	4	3	3	3	NA
2.5	0	0	2.5	0	2.5	2.5	2.5	2.5	0
✓	✓	✓	✓	✓	✓	✘	✓	✓	✓
✓	✓	✓	✓	✓	✓	✘	✓	✓	✓
✓	✓	✓	✓	✓	✓	✘	✓	✓	✓
22.81	13.49	20.13	24.27	20.99	25.62	21.73	25.87	20.46	5.42
43.2	26.5	31.2	57.8	48.9	50.5	25	53.4	33.1	6
37.1	21.1	21.5	40.5	38.4	46	21.9	49.1	22	5.6
135.2	64.9	49.8	176.9	94.5	157.4	85.2	157.1	52.3	25.2
134.5	51.7	31.8	112.9	74.9	142.5	72	145.2	31.5	179
5004	1771	1480	5931	2940	5549	4469	5571	1501	361
4302	2642	5388	5415	4247	5477	4826	5492	5403	467
4685	2184	3573	4343	4278	5088	3903	5108	3588	309
1034	522	557	1654	617	1055	1103	1070	559	173
4801	3198	4899	4401	4716	5005	4128	5008	4910	3141
3735	2219	3855	4865	3524	4574	4051	4584	3872	451
4516	1689	2571	3968	4126	4413	3622	4552	2610	228
4510	1693	2570	3974	4143	4415	3617	4551	2612	226
8150	5309	10458	10470	8506	10464	9856	10491	10466	988
3340	1458	4300	4303	2338	4282	4026	4301	4318	231
19797	12385	25410	25437	19872	25416	24758	25488	25423	2119
26210	15522	33850	33880	24910	33840	34651	33861	33867	2538
47	37	44	41	45	47	51	47	45	37
57	41	57	56	57	57	57	57	57	41
29	31	21	24	23	28	41	26	32	31
56	40	55	32	56	56	57	57	56	39
46	30	45	32	46	46	47	47	46	29
16	8	30	23	26	19	7	18	25	8
21.6	16	24.4	24.6	23.1	24.5	21	24.8	24.7	5.5
150	201	132	126	149	121	145	120	130	Failed
9.05	16.52	8.64	7.04	11.88	7.60	9.74	8.44	10.56	11.88
4200	2300	4400	5400	3200	5000	3900	4500	3600	3200
56.35	50.72	50.35	58.05	55.96	59.84	52.85	56.21	51.72	31.03

capture devices make use of this interface to transfer video to the hard drive.

Only Gigabyte's GA-8I915GV and GA-8I1000G came equipped with Gigabit LAN.

USB ports were also standard accessories on all the motherboards. The Gigabyte GA-8IG1000, HIS FA61 and HIS M48-F3 had only two USB ports, whereas the others had four.

Most boards came with two or three PCI slots. Since video, sound and LAN come onboard, the necessity to add PCI cards for these functions has been eliminated. Hence, a lower number of PCI card slots will not be much of an issue, as there are only a few types of add-on cards that you might want—such as TV tuner cards.

Almost half the boards had a 24-pin power connector. The others had the standard 20 pin connector. As we've mentioned earlier, while buying a power supply, you need to be careful about the pin count.

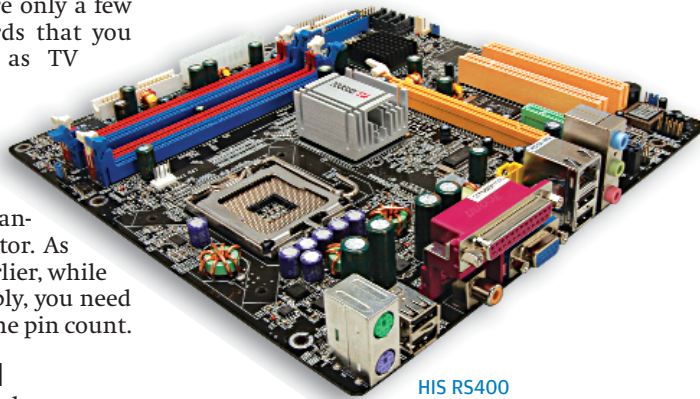
How They Fared

As with AMD, we began our benchmarking by seeing how the boards would fare on the graphics and gaming front. Even though this might not be what the targeted user might use the boards for, it is still a good way to test the speed and system performance.

The motherboard that scored

the highest in our Serious Sam test was the Foxconn 915PLAE-8S. This board scored a mammoth 152 and 133.1 fps in the 640 x 480 and 800 x 600 resolutions. However, it must be pointed out that this board lacked an onboard graphics solution, so we'd used an nVidia GeForce FX6200 PCIE card, which led to a substantial increase in scores.

The HIS RS400 came in second with 57.8 and 40.5, and was followed by the Gigabyte 8TRS 350MT, which logged a commendable 54.6 and beat the HIS RS400 in the 800 x 600 scores by logging 47.5.



HIS RS400

The worst performer here was the MSI RS 350M-ILSR. This ATI RS350-based socket 478 motherboard logged a measly 25 and 21.9 fps, and you should steer clear of it if you have even the remotest chance of running an application that is even slightly graphics-intensive.

We then put the boards through a few demos of Quake 3 Arena, and the picture changed slightly—but not at the top. That was ruled completely by the Foxconn 915PL7AE-8S, which logged a humongous 370.7 and 282.1, but of course, as we've

Quake III (800x600)



FPS score, higher is better

mentioned before, it had a graphics card to help it with the games! The second-placed board here was the Gigabyte 8TRS 350MT, which logged 178.5 and 131.7 for the above-mentioned resolutions, and barely edged out the newer LAG775 socket HIS RS400 which clocked 176.9 and 112.9 fps.

The board that did miserably here was the MSI PM8M2-V. This Via-based board scored really bad—52.3 and 31.5. Of course, 31.5 is very playable, but it is not acceptable considering the kind of scores the other boards were logging.

Another board that performed beautifully was the Mercury PI915GVM. The board logged a commendable 157.4 and 142.5 fps, and came in fourth.

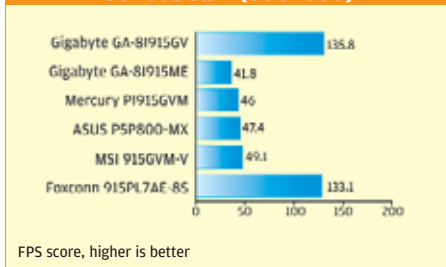
The real graphics benchmark, 3DMark 2001 SE, gave us rather surprising results.

The board that lost out hugely here was the HIS FA61, which logged a mere 1480—which was quite surprising, as the board was based on the new Via P4M800 chipset and is an LGA 775 socket.

Its more powerful and newer cousin, the HIS RS400, logged an impressive 5951 3Dmarks, and stood first by a fair margin over the second-fastest board, the Asus P5P800-MX, which clocked 5762.

The third-fastest was the MSI 915GVM. It scored 5571 3Dmarks, and just barely edged out the Mercury PI915GVM, which came in fourth with a score of 5549.

Serious Sam (800x600)



FPS score, higher is better

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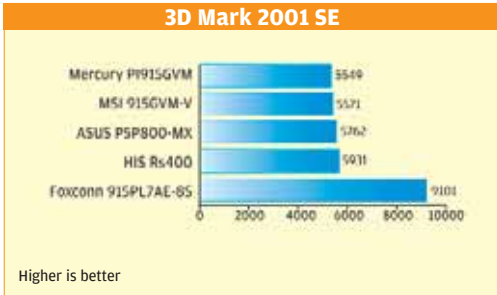
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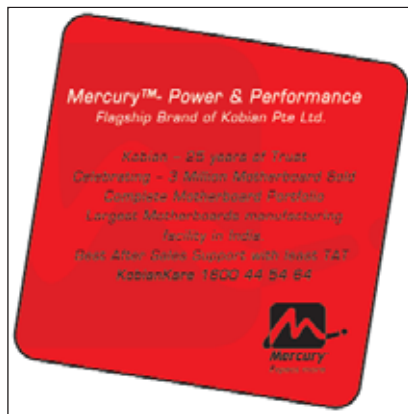


The 21-point difference is almost negligible, and these boards should be considered on par for all practical purposes.

The Foxconn 915PL7AE-8S scored a massive 9101 3DMarks, but since it was tested with a graphics card, it is completely unfair to compare this board to the boards tested with their onboard video solutions.

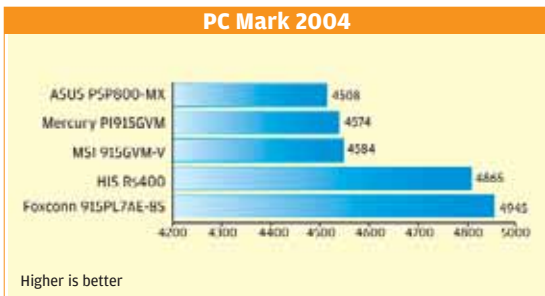
In our overall system benchmark, PCMark 2004, everything went topsy-turvy. The MSI 915GVM-V logged the highest CPU index at 5492, edging out the Foxconn 915, which came in second at 5481. The third spot was taken up by the Mercury PI915GVM, which logged a close 5477—which was not all that surprising, since all these boards were LGA 775-based and had the same CPU.

The overall scores of this benchmark reflected the true overall system performance and here, the Foxconn 915PL7AE-8S lead by a hairsbreadth over the



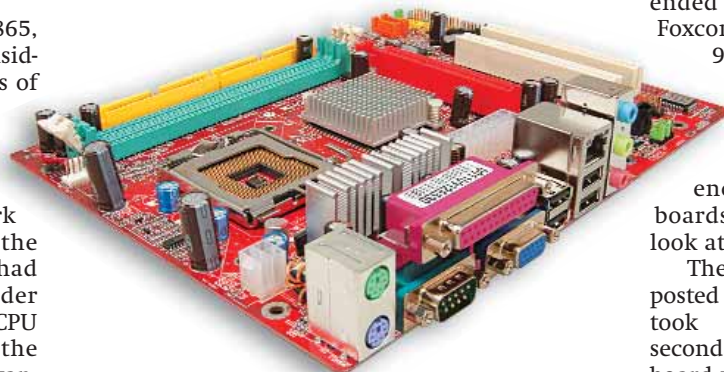
marginally beat the Mercury PI915GVM, which scored 10464. The difference is meaningless, really—both boards get a joint first here!

The Whetstone test was won by the MSI PM8M2-V with a score of 4318, which was just about better than the 4309 scored by the Asus P5P800-MX, which is an 865GV-based board and is not on



HIS RS400 which clocked 4865, which is extremely good considering the fact that the scores of the Foxconn were bumped up by the external graphics card.

In SiSoft Sandra, our second synthetic benchmark for system performance, the LGA 775 socket processors had an advantage over the older socket 478 processors in the CPU subsystem tests but as was the case in AMD boards, this advantage should be noted and



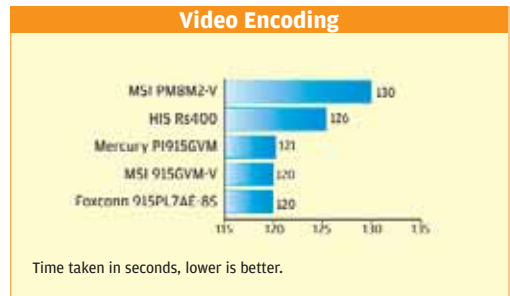
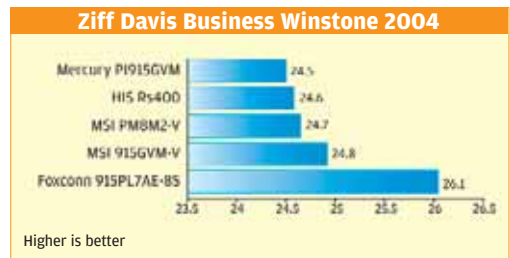
MSI PM8M2-V

PCIe—hence the performance is quite commendable.

The multimedia CPU test was won by the HIS RS400 with a score of 25437, and the FPU test was won by the MSI RS350M-ILSR with a score of 34651.

In the disk index tests, only three boards scored 51—these were the MSI RS350M-ILSR, Gigabyte GA-8IG1000 and GA-8I915GV. All the other boards ranged from 37 (for the HIS M48-F3) to 47. Hence the HIS M48-F3 is the last placed board here.

In our Business Winstone Benchmark, the clear winner once again was the Foxconn 915P7AE-8S with a score of 26.1. It quite comfortably beat the second-placed Asus P5P800-MX,



which scored 25. With a low 16, the loser here was the HIS M48-F3. The board was severely hampered by its older socket and chipset.

The final real world test we undertook was the video encoding file test. The test ended in a tie between the Foxconn 915 board and the MSI 915GVM-V, both taking just 120 seconds to encode our test file. If you plan to indulge in any amount of video encoding, these are the boards you definitely need to look at!

The worst times here were posted by the HIS M48-F3, which took a mind-boggling 201 seconds to do the same job! The board was, again, limited by its chipset and the socket.

Indicative System Prices

AMD		
Component	Model	Price (Rs)
Processor	Athlon 64 3200+(939)	9400
Motherboard	MSI RS480M2-IL	5395
RAM	Transcend 512MB DDR400	2500
Hard Disk	Seagate Barracuda 80GB (7200RPM)	2700
Floppy Drive	Sony	300
DVD Combo Drive	Lite-On DVD Combo drive	2450
Monitor (15/17 inch)	LG	4650/5650
Keyboard	Logitech	300
Mouse(Ball/Optical)	Logitech	300/500
Cabinet	Kobian	1200
Total		28895

If you choose a socket 754 board, such as the TUL A480A7-VF then you can go for Athlon 64 2800+ (754) costing Rs 5200. Total System Cost: Rs 24395. If you go for a board without on board graphics like the Winfast NF4K8MC, then you will need to pay Rs 3500 for XFX Geforce 6200 256 MB (TC) PCIE graphics card. Total System Cost: Rs 32750

Intel		
Component	Model	Price (Rs)
Processor	Intel P4 2.8 (LGA 775)	6750
Motherboard	Mercury Pi915GVM	5000
RAM	Transcend 512MB DDR400	2500
Hard Disk	Seagate Barracuda 80GB (7200RPM)	2700
DVD Combo Drive	Lite-On DVD Combo drive	2450
Monitor (15/17 inch)	LG	4650/5700
Keyboard	Logitech	300
Mouse(Ball/Optical)	Logitech	300/500
Cabinet	Kobian	1200
Total		25550

If you choose our silver winner Gigabyte GA-8IG1000-G (socket 478) then you can go in for the P4 2.4 (478 socket) processor costing Rs 5650 and your total system cost would then be Rs 23650

Conclusion

With the various flip-flops in the scores, we had an interesting time trying to come up with a winner.

Since this is a budget category and we are looking at boards which should provide all onboard solutions including video, the Digit Best Buy Gold award goes to the Mercury Pi915GVM-V.

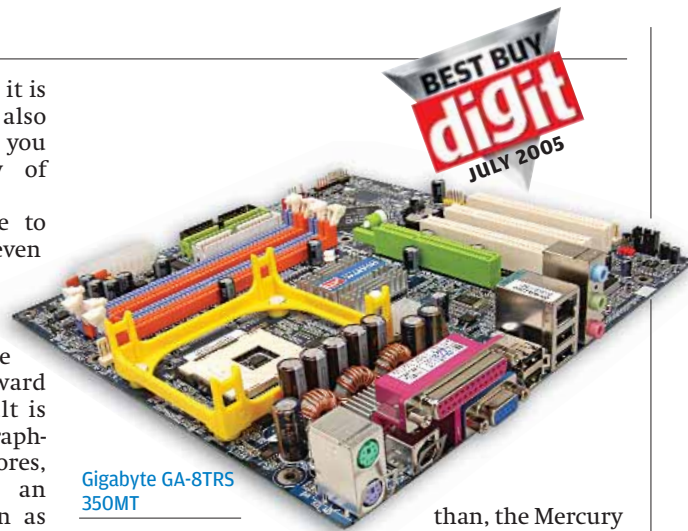
This board is certainly not the best-performing board, but then we are not in the performance category—plus the board is near the top if not at the top in almost all our tests. It is a balanced board with lots of

features, and since it is PCIe-based and also supports LGA 775, you will have plenty of upgrade options.

We would like to clarify that even though in terms of pure scores logged, the Foxconn *should* be the 'Gold Award Winner', the result is clearly due to its graphics performance scores, which would be an unfair comparison as the Foxconn board had a 6200 graphics card on it. On all other aspects, our winner is neck and neck with the Foxconn, so the Mercury board was declared the winner.

What you must keep in mind is that the Foxconn motherboard does not have onboard video, so if you don't mind spending a little extra on the additional graphics card, we would absolutely recommend this board, as in all other aspects, it is on par with, if not better

graphics card, we would absolutely recommend this board, as in all other aspects, it is on par with, if not better



Gigabyte GA-8TRS 350MT

than, the Mercury Pi915GVM-V.

The Digit 'Best Buy Silver' award goes to Gigabyte 8TRS-350MT. This board is a consistent performer, and at the moment is a good buy. However, we would also like to point out that it is not entirely advisable to buy this board as it is based on socket 478, and Intel has stopped manufacturing processors for that socket. Also, this board is based on an older chipset and would not allow you to upgrade to a PCIe-based graphics card in the future.

If you want a commendable performer with a decent price tag and future upgradeability, you should consider the HIS RS400. This board is an LGA 775 board and supports PCIe.

It is amazing what the entry level boards of today have as standard features. If the trend continues, in a year's time we might even see SLI and dual-core support being offered for Rs 5,000 or less! With the advent of Intel Extreme Graphics 2 and ATi's onboard graphics provisions, you are no longer limited to playing arcade games on entry level PCs.

You can now go and buy some of the entry-level games (read high-end games of yesterday, such as Unreal Tournament 2003!) and enjoy them without the need of an additional 3D graphics card.

The choices and options are immense, and the prices are extremely low. Now you need not think ten times before going in for an upgrade, as the features and prices on these boards will give you decent performance at an extremely low cost.

May this trend continue! ☑

varun_dubey@thinkdigit.com
jayesh_limaye@thinkdigit.com



Mercury Pi915GVM Intel 915GV

Contact Sheet

Motherboards

Brand	Company	Telephone	E-mail	Web site
Aopen	Xserve India (Pvt) Ltd.	080-5113 1001	info@xserve.com	www.aopen.com
ASRock	Abacus Peripherals Pvt. Ltd	022-56923941/44/45	ajain@abacusperipherals.com	www.asrock.com
ASUS	ASUSTeK Computer Inc.	022-56490048	info_india@asus.com.tw	www.asus.com
Elitegroup	Cyberstar	022-28386711/13	navin@cyberstarindia.com	www.ecsusa.com
Foxconn	Mediatech India	022-26361111	digit@mediatechindia.com	www.foxconnchannel.com
Gigabyte	Gigabyte Technology (India) Ltd.	022-26526696	sales@gigabyte.in	www.giga-byte.com
HIS	Maxtone Electronics	022-23016468	maxtone@vsnl.com	www.maxtone.com
Krypton	Priya Ltd	022 5663199/97	sejal.shah@priyagroup.com	www.priyagroup.com
Mercury	Kobian ECS India Pvt Ltd	022-23020767 / 774	mumbai@kobian.com	www.kobian.com
MSI	Tirupati Enterprices	033-22251192	mail@tirupati.net	www.msi.com.iw
TUL	Mediatech India	011-5151 1234	digit@mediatechindia.com	www.tul.com.tw
Winfast	Mediatech India	022-26361111	digit@mediatechindia.com	www.leadtek.com

Building A Better Web Site

Imaging Shyam Shriram, Atul Deshmukh
Photograph Jiten Gandhi

Robert Sovereign-Smith

Most SoHo businesses today need to have a Web presence, especially given the increasing number of searches for products and solutions being conducted online. The days of consulting the Yellow Pages are almost gone, at least in every city or town that's been Net-enabled for the past two years.

Previously, in this space, we've shown you how you can set up a very basic HTML-based Web site—at almost no cost. Now, for you to take your Web site to the next level, and start creating a true online presence, you need to get into the world of scripted Web pages, and things such as server-side scripting to create dynamic Web pages that will give your site the professional look it needs.

This is where coding languages such as Microsoft's ASP (Active Server Pages) and PHP (PHP: Hypertext Preprocessor) come in. However, it's not something that

just anyone can sit down and learn overnight. For the SoHo segment, or even for a personal Web site, hiring a few site developers to build your site is also not an option. What next, then?

Nuke 'em

PHP, the open source alternative to Microsoft's ASP, is the obvious choice to build a Web site. Why? Because it is cross-platform—a PHP site can be hosted on any Web server, running any OS, unlike ASP, which needs a Microsoft OS—and because it's open source.

The biggest advantage of open source software is the thousands of developers who dedicate time to improve or simplify such software.

PHP-Nuke is a project by dedicated developers who decided that people shouldn't need to know how to code in order to develop their own PHP-based Web sites.

There are many offshoots of PHP-Nuke, which is the beauty of open source, and these are listed in the box "Options". The installation and control panel of each do not logically differ much from PHP-Nuke, so you can feel free to experiment with some of them as well.

Here, however, we will stick to PHP-Nuke, and learn how to install, configure, and finally, tweak it to give you a Web site that's unique and looks exactly what you want it to look like.

Prerequisites

There are some things you will need to have in place before you can begin setting up your site, such as a domain name and hosting space on a Web server that supports PHP and MySQL databases. Both are relatively easy to find.

When it comes to Web sites, HTML can be limiting. Learn how PHP can expand the possibilities

On GoDaddy.com, for example, a .COM domain will cost about \$9 (Rs 390) yearly and basic hosting with 25 GB data transfer and 500 MB Web space will cost about \$4 (Rs 175) a month. This brings your total yearly expenditure to about \$57 (Rs 2,500). Thankfully, this is all you will have to pay. Using this article, you will be able to set up a personal or company Web site for exactly that price and not a paisa more.

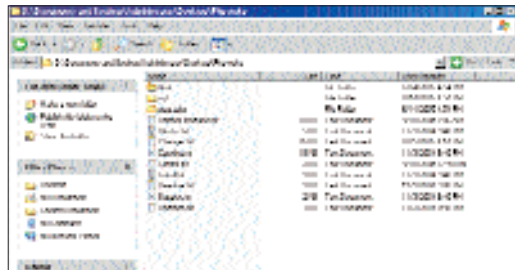
Getting PHP-Nuke

Once you've bought your domain name and Web hosting, the next step is to download the PHP-Nuke installer from www.phpnuke.org. The latest version will cost you \$10 (Rs 435) to download, but they offer the previous version for free. So, as of the writing of this article, if the latest version is 7.8, you can download version 7.7 for free. The latest free version is available at http://snipurl.com/digit_php.

Installing PHP-Nuke

Once you have downloaded the file, unzip it to your hard drive. You will see three folders—'html', 'sql' and 'upgrades', along with multiple text files.

Since you are freshly installing PHP-Nuke, all that concerns you is the 'html' and 'sql' folders. The 'upgrades' folder



Unzip the PHP-Nuke installer to your hard drive

is meant for those of you upgrading PHP-Nuke to the latest version. The first thing you should do is read the 'Readme' and the 'Install' text files, as you should do before preparing to install any software.

Now all you have to do is follow the step-by-step instructions below to install PHP-Nuke.

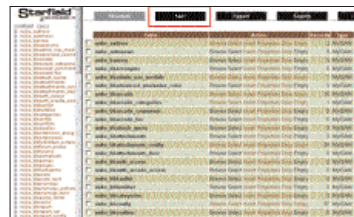
1 STEP Creating A New MySQL Database

A MySQL database is what a PHP Web site uses to store data. It reads the MySQL database and displays content, and the settings that you select.



You can create a new SQL database from GoDaddy.com's control panel

When you sign up for Web hosting, you will be told how to control your databases. Most hosting companies offer a simple phpMyAdmin or mysqladmin front-end for managing your databases. In our example, using GoDaddy.com's hosting package, we got an allocation of one database, which we created from our account at GoDaddy.com itself.



Whether your Web hosting provider offers mysqladmin (top) or phpMyAdmin (bottom) control panels, just look for the "SQL" link to upload your "nuke.sql" file and execute it

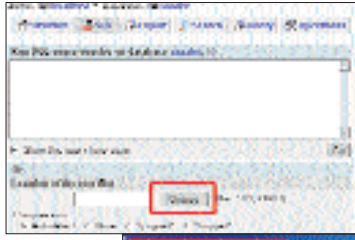
You will have to create a database here and call it anything you want. Now you will have to use the phpMyAdmin or mysqladmin front-end to create the hundreds of tables and thousands of fields in MySQL that PHP-Nuke needs.

Fortunately, all you need to do is find a link called SQL, as shown in the accompanying screenshots.

2 STEP Adding PHP-Nuke Tables To The Database

Once you click on the SQL link, you will see something simi-

1 col AD



Click on the "Choose" button and then select the "nuke.sql" file that you unzipped



lar to what's shown in the screenshots. There will be an option to upload a file to the server and run the SQL commands in it. Basically, you need to upload the file called 'nuke.sql' which is in the 'sql' folder you came across after unzipping the PHP-Nuke installer.

There will be a button titled 'Choose', which will ask you to select a file from your hard disk. Select the file 'nuke.sql' and click 'Go'. This will execute all the required SQL commands, and you can now begin uploading your Web content.

STEP 3 Editing The config.php File Correctly

In the 'html' folder, you will find a file called config.php. Open this with a text editor such as Notepad or Wordpad. You will see the following lines:
`$dbhost = "localhost";`
`$dbuname = "root";`
`$dbpass = "";`
`$dbname = "nuke";`
`$prefix = "nuke";`
`$user_prefix = "nuke";`
`$dbtype = "MySQL";`
`$sitekey = "<something>";`
`$gfx_chk = 0;`

```
$subscription_url = "";  
$admin_file = "admin";  
$advanced_editor = 0;
```

These are the default settings, and you will need to change these. An explanation for each field is given within the config.php file itself. The important ones you should take special care when changing are:

```
à $dbhost = "localhost";
```

Set this to wherever your MySQL database is hosted. With GoDaddy hosting, this is generally something like "mysqladmin99.secureserver.net". If you are sure that the database is hosted on the same machine as the Web server, then leaving this to "localhost" should be fine.

```
à $dbusername = "<name>";
```

Here, "<name>" is the username you set with your hosting provider for database management.

```
à $dbname = "<dbname>";
```

Here you should enter the database name you set in Step 1 for your database.

```
à $admin_file = "admin";
```

If you want to change the name of the admin.php file to something else, say "da-big-boss.php", for obvious security reasons, then you should change this setting to reflect that (\$admin_file = "da-big-boss"). Make sure that this setting and whatever you rename the admin.php file to always match, or you will end up with a non-functional site.

STEP 4 Uploading The Site

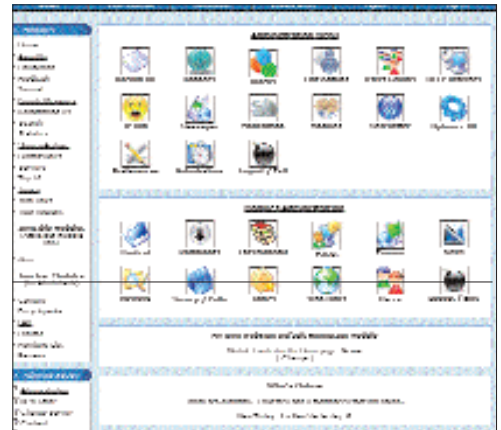
Now you're finally through with all the actual editing and changing. All you have to do is upload all the files, as they are, to your Web



The first time you visit your site you will be prompted to set an administrator password



Set up the administrator password for your Web site



Once you login as administrator, you will see the Administrator Control Panel (ACP)

EasyPHP: The Easiest Way To Test Your PHP Site

If you don't have a Web server, but would still like to try your hand at designing a Web site, you can always set up a local server on your own computer. This is also useful if you want to test a module before installing it on your main site, or if you want to try out a theme, or any such tweaks. However, you need a Web server that supports PHP, such as Apache, and a MySQL database daemon running, and you're probably using Windows. Complicated, huh?

Well, not really—thank God for Open Source and Free software! There's a software called EasyPHP, available at

http://snipurl.com/digit_easyphp. Don't be put off by the French used everywhere—when you finally install it, there's an English option!

All you need to do is install EasyPHP, and it creates a '/Program Files/EasyPHP/www/' folder where you can just paste your Web sites to see them work. Now you need to start EasyPHP, and navigate to 'http://localhost' to see your Web site. It even has a phpMyAdmin, accessible by right-clicking on the EasyPHP logo in the taskbar when the software is running. Truly easy PHP!

server's root directory. This will take a while, and may fail frequently on slower connections.

It would be best to find an FTP utility that supports resume and allows you to upload folders and keep folder structures. If you have a decent connection, Internet Explorer will also do just fine.

Once everything is uploaded, just type in your domain in a browser and you will see a message on the main page that tells you to create an admin account and set a password. Once this is done, you will be logged into the Administration Control Panel (ACP). This is where you will be able to tweak your site and its content—all from within your browser.

STEP 5 Understanding The PHP-Nuke Layout

Once you've gotten all the above steps right, you will have

reached the Administrative Control Panel (ACP) for your PHP-Nuke Web site. Now, before you can start building your site, you need to know what each little icon in your ACP means, and how you can leverage them within your site.

Since we cannot list all of them in detail, we will only cover the most important ones. You should be able to decipher the rest easily enough by clicking on them.

Preferences

This is where you set all the important settings of your site, such as the name of the site, the logo it uses, the theme or colour of the entire site, and all administrative information and settings.

Make sure to set all the correct information here first. You should also check out the different theme options that come bundled with PHP-Nuke and decide on one that suits your site best. You can always tweak the design later, or even download a PHP-Nuke theme from the thousands available online.

Blocks

Blocks are just that—blocks! The different boxes you see around the default site that you already have



Each red box in this screenshot depicts one block



Manage your block placement from the ACP

are its blocks. We have marked out different blocks in boxes in the accompanying screenshot to better illustrate this. From the ACP, you can control which blocks are shown on your site, and more importantly, where on the site they appear.

You will see the following details mentioned: Title, Position, Weight, Type, Status, Visible To, and Functions with Edit, Activate/Deactivate, Delete and Show options. So, for example, let's say you want to move the Login block to the left of the Web site and disable the Languages block:

First, you click on the Edit icon in line with 'Languages'. In the new page that loads, you will see that you can change the option for Activate to 'No'. This will deactivate the Languages module, and you should also set the 'Visible to Subscribers' option to 'No', to hide the Languages block.

Now, just edit the Login block the same way, and just set the value of "Position" to "Left".

Now you can go ahead and play about with the blocks to see what you want where and what you want to remove. You can also create new blocks, with links to new pages that you construct. It's really very easy once you do it yourself.

Modules

Modules are like functions of your Web site, and can be controlled easily using the ACP. Clicking on the Modules link takes you to a page with a long list of modules. Here you have to choose what's important for your site to have and what isn't. Remember, there has to be at least one module linked to your home page.

By default, this is set to the News module, as PHP-Nuke was primarily built for community boards. You can change this to anything else, and you can also download and install more modules from the Net.

By default, the following modules are active after you install PHP-Nuke:

AvantGo, Downloads, Feedback, Journal, Private Messages, Recommend Us, Search, Statistics, Stories Archive, Submit News, Surveys, Top 10, Topics, Web Links, Your Account.

The easiest way to learn what each one is, is to click on the link and see where you go. It's all pretty straightforward.

Options

PHP-Nuke has many offshoots; as developers took up the challenge and started developing their own versions of easy-to-configure PHP-based sites. Here are a few examples, in case you'd rather try them out instead:

- PostNuke:** Based on PHP-Nuke 5.0; www.postnuke.com
- myPHPNuke:** Based on PHP-Nuke 4.4; www.myphpnuke.com
- Xaraya:** Based on PostNuke; www.xaraya.com
- NPDS:** Based on PHP-Nuke 4.3; <http://www.npds.org/us>
- XOOPS:** Based on myPHP-Nuke; www.xoops.org
- PHP-Nuke Platinum:** PHP-Nuke, but with a lot more modules thrown in to help skip searching for them online; http://snipurl.com/nuke_plat

Messages

The default message you see in your home page is listed here. Messages are sort of like posts that get priority over everything else in the home page. They can be set to be permanent, such as an introduction to your site, or temporary, such as informing site visitors that the downloads section will be down for a week. You can also have messages only for registered users, or other administrators—basically different usergroups.

STEP Investing The Time
 Though this will only get you started with your Web site, PHP-Nuke is built to be easy to understand. Even if you do come across problems, or cannot understand something, there are hundreds of forums that discuss and solve any questions or problems that people face.

In the end, how well-designed and snazzy your site looks depends solely on the amount of time you can dedicate to it. You can also add a shopping cart and a payment gateway, and sell your goods online. The options are unlimited, especially with PHP-Nuke modules, which seem to be made for each and every function you could ever imagine.

Building your dream site is a lot easier now—all it takes is some time, the right keywords in Google, and a little bit of bandwidth! ■

robert_smith@thinkdigit.com

Publisher


Use The Publisher 98/2000 Design Gallery

 The Publisher 98/2000 Design Gallery contains hundreds of professionally-designed objects that you can add to your publication, including pull quotes, logos, coupons, borders, mastheads, calendars, and more. To open the Design Gallery, click 'Design Gallery Object' on the 'Objects' toolbar.


You can also use the Design Gallery to store objects that you create or import. Once the items are added to the Design Gallery, you can reuse them in other publications. This is a great place to store your favourite pictures, your logo, or even an entire page.

To add an object to the Design Gallery, click the object. On the 'Insert' menu, click 'Add Selection to Design Gallery'. Type a name and a category in the spaces provided, and click OK.

Add Terms To The Spelling Checker Dictionary

 You can add special terms to the spelling checker dictionary in Publisher, such as proper nouns, industry-specific words, and abbreviations? Once you add a term, Publisher won't flag it as incorrectly spelled when it appears later in the publication or in another publication. To add special terms to the spelling checker dictionary, on the Tools menu, click 'Spelling', then click 'Check Spelling'. Click 'Add' for each word or abbreviation you want to add to the dictionary.

Using The Design Checker To Check For Missing Text

 Missing text often occurs when you resize a text frame after inserting text, or when you add a graphic that pushes text into an adjacent text frame. Adding a continued notice to a text frame can also cause missing text. Publisher indicates that text is missing by showing the 'Text in



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Overflow' symbol at the bottom of a text frame when the frame is selected.

Use the Design Checker to check your publication for missing text. It analyses your publication and stops at every text frame that contains text in the overflow area, and suggests possible solutions.

To run the Design Checker, on the Tools menu, click Design Checker. To check your entire publication, click 'All', or, to check specific pages, click 'Pages', and then type the page numbers in the 'from' and 'to' boxes.


Click OK. Publisher will check the design, and will display a dialog box if it finds a problem. If you want to fix the problem, go to the publication and make your changes; you don't have to close the Design Checker dialog box. When you've finished, click 'Continue' to have Publisher continue checking your publication. Of course, if you don't want to fix the problem, click 'Ignore' or 'Ignore All', then click 'Continue'. Click 'OK'.

Measuring An Object

 Click the object you want to measure, and then look in the status line at the bottom of the screen. The


numbers in the lower-right corner indicate the size of the selected object.

Switch Between Single-Page And Facing-Page Views

 Did you know that you can switch between single-page and facing-page views in Publisher? This tool helps you work more efficiently and create better-looking multiple-page publications, such as newsletters, brochures, and catalogues. Use single-page view when you want to work at a higher magnification and concentrate on one page at a time. Switch to facing pages (or two-page) view when you want to see the pages as your reader will see them. By switching back and forth, you can balance the content and design of the left- and right-hand pages so that they compliment rather than compete with each other.


To switch between single-page and facing-page views of your publication, select an inside page of your publication. On the 'View' menu, click 'Two-Page Spread'. To return to the previous view, click 'Two-Page Spread' on the 'View' menu.

Add Continued Notices To Publisher 2000 Publications


 Continued notices help guide readers through a story that continues on another page in a publication. Continued notices are useful for long articles or publications, such as newsletters or catalogues. Before adding a continued notice, be sure to connect the text frames that contain the story. Continued notices only appear after text has been placed and flows from page to page.

To add a continued notice in a text frame, right-click a connected text frame, point to 'Change Frame', then click 'Text Frame Properties'. Under 'Options', select one or both 'Continued' checkboxes. Click OK. Repeat the steps for each connected frame in the chain.

Change The Dates In Your Publisher Calendar

 The only way to change dates in a Publisher calendar is to do it manually. Create a calendar, then go to the first cell where you want to enter or change a date, and type a number. Press [Tab] to move to the next cell, then type the next number. Continue pressing the [Tab] key to move from cell to cell in the calendar.

Change The Number Of Hyphens Added To Text

 You can change the number of hyphens that are automatically added to your text to achieve a more even right edge, or to reduce white gaps in the text, the number of hyphens, or the number of short syllables before or after a hyphen. To achieve any of these effects, change the number in the hyphenation zone in the following way:

- For a more even right edge, reduce the number.
- For fewer white gaps in the text, reduce the number.
- For fewer hyphens, increase the number.
- For fewer short syllables before or after hyphens, increase the number.

To change the number in the hyphenation zone, click a text frame that contains text. On the Tools menu, point to 'Language', then click 'Hyphenation'. In the 'Hyphenation Zone' box, type the measurement you want. If you do not want any hyphens in your publication, click a text frame, and clear the 'Automatically hyphenate this story' checkbox.

A Cutting And Pasting Alternative

Are you tired of cutting and pasting objects? Instead of pressing [Ctrl] + [C] and [Ctrl] + [V], try this: select an item, hold down the [Ctrl] key, and drag it to where you'd like. Instead of moving the original, you'll drag a copy instead.

Font Formatting

Highlight some text where you want to change the font. Press [Ctrl] + [Shift] + [F]. Press the down or up arrow keys to find the desired font, then press [Enter] to select the highlighted font.

Import Styles

If you want your Publisher documents to match the styles you've previously used in your word processing documents, you can speed up formatting by importing styles: open the Publisher publication that needs the styles you plan to import. Choose **Format > Text Style** from the menu. Choose 'Import new styles'. Select your word processor from the list of supported word processor formats in the 'Files of Type' drop-down box. Go to the folder where your word

processing documents are located, and select the file that contains the styles you want to import. From the list of styles in that document, delete any you don't need or make changes to any of them, if necessary. Click 'Close'. The dialog box closes and styles are imported to your Publisher publication.

Create Two Background Pages In Publisher 98

What many programs call Master Pages, Microsoft Publisher 98 calls 'Background Pages'. For two-sided printing or two-page spreads it is often helpful to have separate background pages for left and right pages.

Here's how: Choose **Arrange > Layout Guides**. Check the box for 'Create Two Backgrounds with Mirrored Guides'. You can apply separate or mirrored items, such as page numbers to each background page independently.

When using two background pages, if you want page numbers on all pages, you must insert page number markers on both background pages. And when placing page numbers on two-page spreads, it is usually best to not place the page numbers on the inside edges.

Turn Off Catalog Display When Publisher Starts

Microsoft Publisher normally opens with the Catalog display that allows you to choose a Wizard. Expert users may prefer to turn off this feature and bring up the Catalog Display only as needed: choose **Tools > Options** from the menu bar. Uncheck the box on the 'General' tab for 'Use Catalog at startup'.

You can get back the Catalog and the Wizards by going to **File > New**.

Creating A Banner In Publisher

If the Catalog isn't already open, choose **File > New** in Microsoft Publisher 98. From the 'Publications by Wizard' tab, choose 'Banner'. From the list of banner styles, choose a

banner type. When you select a banner type, the matching sample is selected in the right pane of the catalogue. There may be multiple choices, so select the sample that best matches your needs.

Click the 'Start Wizard' button. Click 'Next' in the Wizard introduction pane, then specify a length for your banner. If you want a length not listed, choose 'Custom' to specify another length. Click 'Next' again, then specify a height for your banner. Again click 'Next', then specify where you want graphics to appear on your banner—to the left, the right, both sides, or no graphic at all. Click 'Next' for the last time and specify whether or not you want a border on your banner. Click 'Finish' to close the Banner Wizard.

You could stop now, or continue to customise your banner. You can change the graphics, text, or border by selecting those portions of your banner and the appropriate menu options.

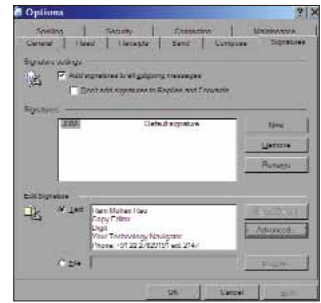
To print, click **File > Print** from the menu bar. Click the 'Tile Printing Options' button. In the 'Options' window, specify how much you want the pages to overlap (for assembling the pages into your finished banner).

The sample box shows how many pieces of paper are required to print your banner. You can adjust the overlap to prevent wasting too much paper or go back and change the height and width. When satisfied, click 'OK' to close the options dialog, then print your banner.

Outlook Express (OE)

Append A Signature Automatically

To set up a default signature in Outlook Express, go to **Tools > Options**. Go to the 'Signatures' tab. Make sure 'Add signatures to all outgoing messages' is selected. You might want to deselect 'Don't add signatures to Replies and Forwards'. Now select the signature you want to become the one



The Signatures tab in OE's options

automatically inserted, and click 'Set as Default'. Click 'OK'.

Access Blocked Attachments

In an attempt to increase security and prevent virus and worm infections, Outlook Express prevents you from opening or saving attachments that it thinks may contain harmful code. Often, this level of security is a bit too much of a good thing. Fortunately, you can regain access to all attachments in Outlook Express. To prevent Outlook Express from controlling your access to email attachments, go to **Tools > Options**. Go to the 'Security' tab. Make sure 'Do not allow attachments to be saved or opened that could potentially be a virus' is not checked, and click 'OK'.

Add A Background Image

There's a lot of sophisticated stationery for Outlook Express that makes use of sounds, scripts and spectacular effects. But some of the most impressive stationery is just a good background image. To add a background image to an email with OE, start with a new message in HTML format. Select **Format > Background > Picture**. Use the 'Browse' button to select the desired image file. Click 'OK'.

If you don't like how Outlook Express automatically repeats the image to the right and downwards, you can prevent this by editing the source of your message (Select **View > Source Edit** from the message's menu. Click on the 'Source' tab at the bottom of the window. Now, edit the HTML source as much as you like.)

Bet You Didn't Know

Quickly Copy Formatting Within A Page

With the right mouse button held down, drag the object or text that has the formatting you want to copy onto the object or text you want to change. Release the right mouse button, and then click 'Apply Formatting Here'.



Record Your IM Video Chat

Learn to record the video chats you've had over instant messengers

Varun Dubey

Have you ever wondered if there was some way you could record memorable video chats you've had with your friends or family? What about important video conferences with clients? We have just the software for you!

What You Need

To be able to record your video conferences—irrespective of the chat client you are using—you need to download a free utility called 'Bulent's Screen Recorder'. Download '1.5b', the freeware version from <http://snipurl.com/evp8>.

At www.silver.net, you can find the latest, paid version of the software.

1 Startup

Starting the software after installation will get you to the default window, and the default settings are more or less sufficient for most recordings.



Default screen of Bulent's Screen Recorder

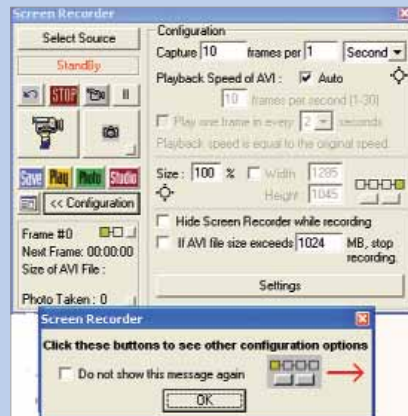
2 Configuration

The software offers a pretty comprehensive list of tweaks for your recordings.

Click on the configuration button, and you will be presented with a rather haphazard configuration window where you can manage the various settings for your recordings.

The default capture quality is set at 10 frames per second (fps), which you should change to the value you would like—most movies are encoded at 30 fps.

Apart from the capture rate, it also lets you select the compression you want to use, as well as set the compression rate using a simple slider. You can also set hotkeys to take screenshots, and set a file size limit for recording—wherein the recording will stop as and when the file size is reached.

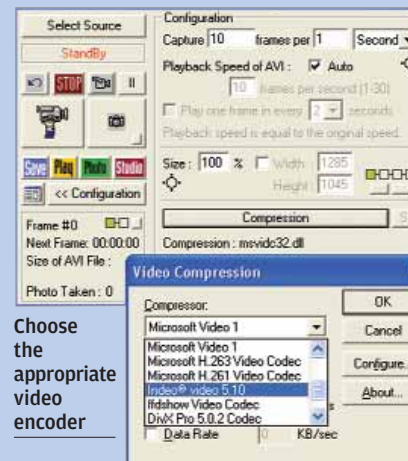


Change the settings in Configuration Panel

3 Recording

First of all, you need to choose the source from which you will record. Click the 'Select Source' button on top, and then select from amongst the options of 'Entire desktop', 'A full window'—which can be any open window on your desktop, 'A specific region' which can be set by you, or your handycam.

The last mode, 'Watch it', puts the software into a monitoring mode and will start recording when a change



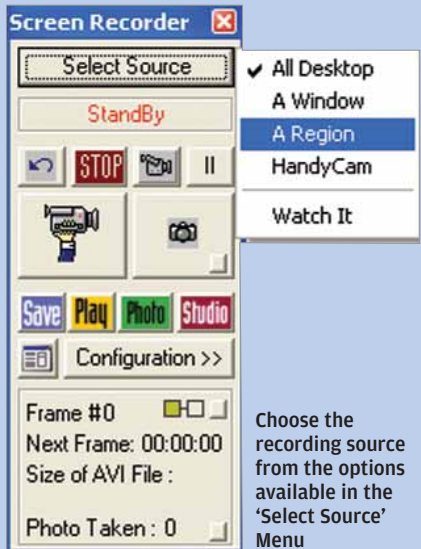
Choose the appropriate video encoder

occurs in the source. It will otherwise pause and wait for any change in the scene. This is great for security related capturing—as soon as someone enters an otherwise empty room, the software detects the scene change and starts recording.

To record video chats, select the source as 'A full window', set window as MSN or Yahoo! video chat window.

4 Continuous Recording

Once the source has been selected, you can start recording by clicking on the handycam button. This is the manual record and you need to keep the button pressed (by holding down the mouse button) to keep recording. The moment you release the button, it will stop recording. To keep recording continuously, you should first click



Choose the recording source from the options available in the 'Select Source' Menu

the handycam button, and then click the arrow on the top left. This will make your recording continuous until you press the 'Stop' button.

5 Playback

On pressing the 'Stop' button, you will be provided with various options of 'Save', 'Play', 'Photo', or 'Studio', the last of which lets you edit your AVI file. Clicking 'Play' will open your default AVI player and play the file.

6 Image Capturing

The button next to the handycam button that looks like a still camera is just that! Once you stop your recording, you can view these snapshots by clicking on the green button labeled 'photo'.

That's all there is to it. You can now have video chat logs and say goodbye to boring old text—provided you have broadband, of course!

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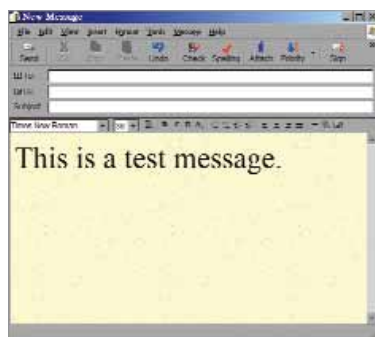
Now, locate the “<BODY>” tag. Insert ‘style=”background-repeat:no-repeat;”’ (not including the outer quotation marks) after “<BODY>” to prevent the image from repeating.

☑ To make the image repeat downwards, insert ‘style=”background-repeat:repeat-y”’.

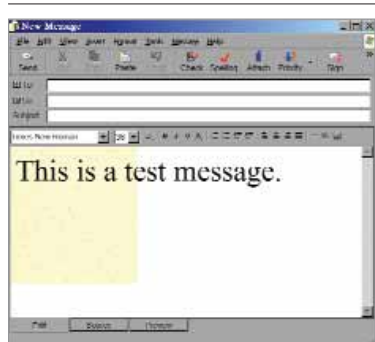
☑ For the background image to repeat to the right, insert ‘style=”background-repeat:repeat-x”’.

Go back to the ‘Edit’ tab.

To make this a little clearer, if the <body> tag is ‘<BODY bgColor=#ffffff background=”C:\Program Files\Shared Files\Microsoft



The background can either be tiled...



Or you can make it appear only once

Shared\Stationery\background.d.jpg”>’, for example, it should be something like ‘<BODY style=”background-repeat:no-repeat” bgColor=#ffffff background=”C:\Program Files\Shared Files\Microsoft Shared\Stationery\background.d.jpg”>’ after the editing.

Add A Sender To The OE Address Book Quickly

☑ To add the sender of a message to your OE address book, just highlight the message in the message list, and select **Tools > Add**

Sender to Address Book. This inserts the sender with the name and email address that appeared in the ‘From:’ header of the message to your OE address book.

With this method, Outlook Express will not ask any questions. If you want to edit the entry, you have to do it in the address book.

Add Address Book Entries To An OE Mailing List

☑ First, to create a mailing list in Outlook Express, select **Tools > Address Book. Select File > New Group...** from the address book’s menu. Type the name of your mailing list in the ‘Group Name:’ field. This name can be anything you like. Click ‘OK’. That’s it!

Now, to continue adding address book entries to the mailing list: if you have a well-stuffed Outlook Express address book, and the new members of your list can be found there, adding them to the list is particularly easy.

To add address book contacts to a mailing list in Outlook Express, select **Tools > Address Book.** Highlight the mailing list you want to add members to either in the list of to the left, or in the main list of address book entries.

Click ‘Properties’, then on ‘Select Members’. Highlight the address book entries you want to add to the group in the list on the left. Add selected entries using the ‘Select →’ button. Click ‘OK’ when done, and click ‘OK’ again.

Add a Member to a Mailing List

☑ It’s easy to add address book members to a mailing list in Outlook Express, but adding recipients to a mailing list without having them appear in the address book, too, is a simple thing to do, too.

To add a member to a mailing list in Outlook Express, go to **Tools > Address Book.** Highlight the

mailing list you want to add subscribers to in the list of address book entries. Click ‘Properties’. Type in the e-mail address of the new recipient in the ‘E-mail:’ entry field at the bottom of the dialog. Optionally, add a name to the subscribed e-mail address. Click ‘Add’. Finally, click OK and close the address book.

Add All Recipients Of An E-mail To Your OE Address Book

☑ If an e-mail you received has additional recipients, adding them to your OE address book is a snap. Just right-click on the recipient, select ‘Add to Address Book’ and confirm the details. But what about adding a dozen new contacts and confirming a dozen details?

Fortunately, Outlook Express can make adding all recipients in the ‘To:’ line to your address book a bit easier.

To add all recipients of an e-mail to your Outlook Express Address Book, open the e-mail in its own window by double-clicking it. Select **Tools > Add to Address Book > Everyone on To List.** Click ‘OK’ for each new contact to confirm. (You can go through the new contacts faster by hitting [Enter] repeatedly; and if an address is already in your address book, OE will display an informative dialog. Hit [Enter].

Unfortunately, this only works with addresses in the ‘To:’ field of messages you have received. The more likely and sensible case of additional new contacts in the ‘Cc:’ field is not covered. You can move the ‘Cc:’ addressees to the ‘To:’ field with some manual editing, though, and add them to your address book more comfortably with the above method:

Drag and drop the message from its OE mailbox to your Desktop. Open Notepad. Drag and drop the newly created .eml file (its name should be the same as the e-mail’s subject) from the Desktop onto Notepad. Edit the message such that all recipients are in the ‘To:’ line. (Make sure you separate the

existing contacts in the ‘To:’ field from those copied from the ‘Cc:’ field with a semicolon.) Now close Notepad, saving the file. Drag and drop the .eml file from the Desktop into your OE Inbox. Add the contacts to your address book. Delete the message and the .eml file on your Desktop.

Use Rich HTML Formatting In Your OE Signature

☑ If you send your emails using rich HTML formatting in Outlook Express, the signature does not have to pale in plain letters beside the rest of your message. Using HTML in your signature is not as straightforward as setting up a plaintext signature, however. It is not even as easy as using HTML formatting in the rest of your message.

This is because HTML signatures in Outlook Express are off-shored to external files. But here’s how to do it. All you need is some basic HTML knowledge, though you’ll do fine even without that.

To use rich HTML formatting in your Outlook Express signature, create the signature’s HTML code in your text editor. Make sure you use only the code you would also use inside the <body> of an HTML document. Save it to a .html file in your My Documents folder, for example. Select **Tools > Options** and go to the ‘Signatures’ tab. Highlight the desired signature. Make sure ‘File’ is selected under ‘Edit Signature’. Use the ‘Browse...’ button to select the signature HTML file you just created. Click OK, and test your new signature.

If you don’t want to type the HTML by hand (or use an HTML editor), you can do it in OE: create a new message in Outlook Express. Type and design your signature using the formatting tools. Go to the ‘Source’ tab. Select the content between <body> and </body>. Press [Ctrl] + [C]. Create a new file in your text editor, press [Ctrl] + [V], and continue as above.

Add An Animation To Your Signature

Once you've mastered HTML formatting in your signature in Outlook Express, adding an animation to it is the icing on the cake. All you really need is a nice animated GIF to include in your signature. To add an animation to your signature in Outlook Express, create a signature using HTML formatting in Outlook Express. Edit the signature's .html file to include '' (without the outer, but including the inner set of quotation marks) where you want to place the animation.

Add Background Sound To E-mails

In Outlook Express, it's easy to add background music that will automatically play when the recipient opens the message. To add background sound to an e-mail message in Outlook Express, start with a new message in HTML format. Select **Format > Background > Sound** from the menu.

Use the 'Browse...' button to select the sound file you want to play in the background. (Make sure the file is of a supported sound format.) Specify whether you want the sound file to be played continuously or a certain number of times. Click 'OK'.

To change the sound later, select **Format > Background > Sound** again from the OE menu. Remember that the music will only play if the recipient uses an e-mail client that understands HTML.

Attach Files Via Drag-And-Drop

In Outlook Express, you can add attachments easily via the toolbar or the menu. But there is an even more intuitive and sometimes faster method to create attachments in Outlook Express: drag-and-drop. Open the folder containing the file you want to send in Windows Explorer. Now click on the

file with the left mouse button. Keeping the mouse button pressed, drag it over to the OE message window. Drop the file anywhere over the message creation window by releasing the mouse button. OE will automatically add it as an attachment.

You can also use this method to attach more than one file at a time. Simply mark the files you want to add and drag them over to the Outlook Express message to drop them there.

Add A New Identity In Outlook Express

If you want to allow others to use your computer and your OE without having to set up multiple users in Windows, you can create an identity for each user in Outlook Express itself.

Outlook Express identities are shielded from each other, and each has its own accounts, signatures, settings and its own address book. You can even protect an identity with a password.

To add a new identity to Outlook Express, you need to select **File > Identities > Add New Identity**. Enter the name (or, if you have multiple identities for the same name, a user name) of the new user under 'Type your name:'. Click 'OK'. Click 'No' to allow the additional user to set up their 'copy' of Outlook



Creating a new identity in OE

Express themselves.

Of course, if the additional identity is for yourself, you can also answer 'Yes' and switch to it immediately to set it up.

Dreamweaver

Launcher Shortcuts

All the Launcher features are available as items under the Window menu. In addition, the following function-key shortcuts are available to access these features. If you memorise the function-key shortcuts for the Launcher items, you'll probably never need the larger Launcher Palette again.

- [F5] Site
- [F6] Library
- [F7] Styles
- [F8] Behaviors
- [F9] Timelines
- [F10] HTML

Controlling The Size Of A New Window

A new browser window is usually the same size as the original browser window containing your site. This can be confusing for some novice Web users.

To make navigation as simple and straightforward as possible, you may want to set the new browser window to a smaller size. You can do so using the 'Open Browser Window Behavior'.

To use the behaviour, choose **Window > Behaviors** to display the Behaviors palette. Then, select the link in your HTML document. Next, select Open Browser Window from the Behavior menu. In the resulting dialog box, enter the URL of the link and set the desired width and height of the new window. Then, click 'OK'. At this point, when the user clicks the link, a small window opens with the linked page.

A Dreary Dreamweaver Display?

As you may have noticed, when your computer's system resources run low, Dreamweaver's display is the first to go. Some users also experience disappearing objects, objects smearing across the screen as they're dragged, and palettes and windows only partially redrawing.

When you experience these types of difficulties,

first close as many running applications as you can. If the problems continue, try setting your video driver to a less demanding resolution. 640 x 480, set to hundreds of colours, is a good resolution to begin testing with.

Linking To Named Anchors

Linking to a named anchor lets you move to a specific spot on a specific web page. We'll now discuss how to link to named anchors on the same page, on other pages in your site, and on pages external to your site.

First, to create a link to a named anchor on the same Web page, select some text or click a graphic. Then, choose **Windows > Properties** to display the Properties palette. In the Link text field of the 'Properties' palette, enter '#' and the name of the anchor you want to navigate to. For example, if the name of the anchor is heading1, you'd enter '#heading1' in the Link text field.

To create a link to a named anchor on another Web page, enter the name of the page and append '#' and the name of the anchor, as in "report.htm#heading1".

To create a link to an anchor on a Web page external to your site, enter the full Web address of the page and append '#' and the anchor name, as in

"http://www.thinkdigit.com/report.htm#heading1".

Naming Objects

Dreamweaver layouts can quickly become so complex that it's difficult to know what to select and whether it's selected.

To help alleviate this confusion, develop a habit of naming every object you place in a Dreamweaver document according to its function. For example, after you create a table in your document to hold the main site navigation links, choose **Windows > Properties** to open the Properties palette.

Now, enter 'Site_Navigation' in the Table Name text field. The next time you select the table,



Wi-Fi Connect Your PDA And PC

Wouldn't you like to transfer data from your pocket PC to your laptop or desktop PC? Read on to learn how to do just that using Wi-Fi...

Varun Dubey

Have you ever had your cell phone stolen? Or lost? If you have a PDA phone, then the loss of a cell phone doesn't just imply loss of mere contact numbers but also the incalculable loss of important office files and business e-mails.

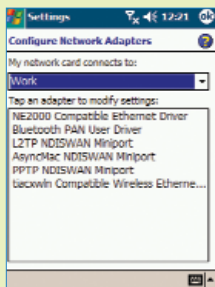
Let's think of a less heart-wrenching but equally exasperating scenario. Consider that you would like to perform a seamless transfer of files between your PC and your PDA or you would like to take a backup. Here's a step-by-step process through which you will be able to link your PDA to your laptop or computer using a Wi-Fi connection.

STEP 1 Startup

Start your handheld PC, and go to **Start > Connections > Settings > Network Cards**.

STEP 2 Check Connection Capabilities

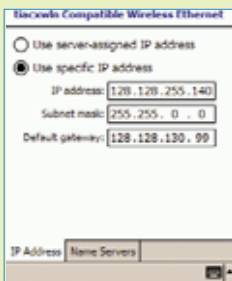
Here, you will see all the connection capabilities of your device. It will list your Wi-Fi cards, Bluetooth adapter and other connectivity devices. Click the drop-down menu and select 'Work'. Select your Wireless Ethernet card from the list of the various cards given.



Selecting the Network adapter

STEP 3 Network Settings For The Phone

Next, the settings page for the card appears. Here, click 'Use Specific IP address'. Remember, the IP address should be of the same series as that on your PC or laptop. Essentially, this means if your laptop has the IP address 128.128.130.140, Enter the IP address



Enter the IP address

your PDA or Pocket PC must have an IP address beginning with 128.128.130. You can choose any three digits between 0 and 255 as the last three digits for the IP address.

Click 'OK', and you will get a message that these settings will be effective when the card is used the next time. Click 'OK' now, and you will return to the 'Network Cards' menu.

STEP 4 Access PC Wi-Fi Connections

Now, on your PC or laptop, click the 'Wireless Connections' icon in the system tray. Alternatively, you can access it from **Start > My Network Places > View Network Connections**.

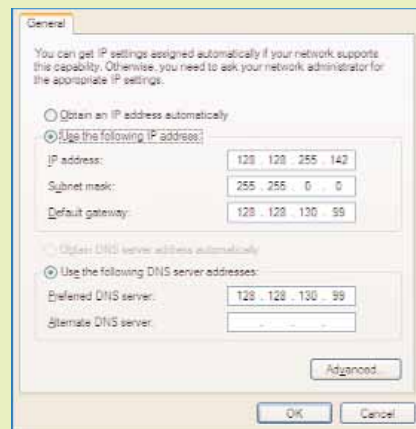
STEP 5 Edit Network Properties

Right-click your wireless network connection icon, and click 'Properties'. In the list of protocols installed, scroll down and select 'Internet Protocol (TCP/IP)', and click 'Properties'.

STEP 6 Enter The IP Address

Once you reach the Properties dialog box, select 'Use the following IP address' to specify an IP address. You need to be careful and provide an IP address of the same series as that on your PDA. Continuing with our example, let's provide the following:

IP Address: 128.128.255.142
Subnet Mask: 255.255.0.0
Default Gateway: 128.128.130.99
DNS Server: 128.128.130.99



The TCP/IP properties

STEP 7 Configure Wireless Network

On the top of the window, click the 'Wireless Networks' tab. Make sure the tab, 'Use Windows to configure my wireless network settings' is checked.

Click the 'Add' button, and provide an SSID (Secure Set Identification) for the PC or the laptop as the case maybe.

Uncheck 'Data encryption (WEP enabled)', and then click 'OK'.

When you come to the wireless connections window, you will see the SSID with an icon with a red cross on it.

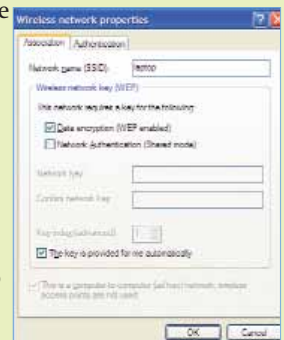
There's no cause for concern as this simply implies that the wireless connection or the PDA is not in range yet. This is because the Wi-Fi access on the PDA hasn't been activated so far.

STEP 8 Connecting To Your PC

Start your Wi-Fi connection, and you will find your PDA scanning for a network.

Click **Tools > Network Cards** to view the available networks. Select 'laptop' or whatever SSID you gave the PC or laptop, and select 'OK'. You'll now see that the PDA has connected to the PC or laptop.

At this point, you will be able to browse shared folders on your desktop PC or laptop.



Uncheck the 'Data Protection (WEP enabled)' option




Search And Connect Your Network

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you'll immediately know the table's purpose by glancing at its name in the Properties Inspector or in the HTML Code window.

Naming every object as you place it in a Dreamweaver document may seem tedious, but it will save you hours of frustration and confusion later.

Using Anchors In Dreamweaver

 Named anchors are objects you can set links to within an HTML page. When you click on a link connected to an anchor, the browser scrolls the Web page to the anchor. When you create and place an anchor, common sense would dictate that you place the anchor directly beside the target. However, this causes the browser to scroll the page edge so close to the target that the target is obscured from view.


Therefore, when you place an anchor in Dreamweaver, place the anchor one line above the text or image. This creates enough space for your Web visitor to easily see the anchor target.

Another considerate function you can add to your page is to place a link to the top of the page next to each named anchor.

To create such a link, place your cursor at the top of your page and choose Insert, Named Anchor. Enter Top in the resulting dialog box and click 'OK'.

Then, place text or a graphic next to each named anchor on your page linking to the Top named anchor. Now your visitor has a convenient way to navigate around your Web page.


Viewing The Head Section

 As you may know, Dreamweaver places a Title and a Metatag element in the Head section of an HTML document. These elements are normally invisible while you view the page in Dreamweaver WYSIWYG (What You See Is What You Get) mode. However, you can set Dreamweaver to display


elements in the Head section of your HTML document.

To do so, choose View > Head Content. Dreamweaver creates a frame in the page window and displays the items in the Head section. You can add, modify, or delete these items. To modify an item, first choose Window > Properties to display the Properties palette. Then, select the Head object and modify the values displayed in the Properties palette.

Exact Spacing


 Exact spacing in HTML is a difficult task. To create precise layout, leading, and spacing, use a 1 x 1 pixel, transparent GIF as a spacer. Because you're using a transparent GIF, you can shape and mould the GIF to any dimension you require to position text, images, form objects, and tables. To do so, insert the transparent GIF into your Dreamweaver document. Then, set the width and height through the Properties palette until you achieve the desired amount of white space.

Paragraph Versus Line Breaks

 You may have noticed that each time you press the [Enter] key, Dreamweaver skipped down the page two lines. Pressing [Enter] inserts a single paragraph break. The HTML tag for a paragraph break is <P>. This is useful when you are looking at increase the space between different paragraphs.

However, there will be times when you just want to go to one line directly below the one you are working on without introducing extra space. Pressing [Shift] + [Enter] inserts a line break instead. The HTML tag for a line break is
. Knowing the difference between a <P> and a
 will allow you to control the spacing between lines of text.

Setting Two Words Not To Break


 Usually you want to leave the text-wrapping decisions up to the browser. In most cases, any specific

formatting you assign to text will appear differently on another computer.

However, there are instances where it is beneficial to locally format text. For example, the table column header "Part #" will look sloppy if a foreign browser displays it like: Part #

To prevent odd breaks like this, replace the space between the words with a non-breaking space. To create a non-breaking space in Dreamweaver, place the cursor in the text and press [Ctrl] + [Spacebar]. The HTML for a non-breaking space is &NBSP;

Tabbing in Dreamweaver


 As you may know, there are no tabs in HTML. However, if you want to indent an entire paragraph of text, you can use the Blockquote HTML tag.

To indent a paragraph of text in Dreamweaver, select the text and choose Text > Indent. To out-dent a paragraph of text (or remove a BlockQuote), choose Text > Outdent. Alternatively, you can press [Ctrl] + [>] to indent or [Ctrl] + [<] to out-dent.

When you choose Text > Indent, Dreamweaver generates HTML similar to

```
<blockquote>
<p>This is a paragraph of
text</p>
</blockquote>
```

Turning Off The Border Around A Linked Image

 Everyone likes to use images for links instead of stale, boring text. However, when you apply a link to a graphic, browsers always display a one-point blue border around the graphic. If that border isn't to your liking, you can easily modify or delete it in Dreamweaver.

To do so, first click the image to select it. Next, choose Windows > Properties to display the Properties palette. To increase the thickness of the border, enter a number in the Border text box. Press [Enter] or click Apply. To get rid of the border

Bet You Didn't Know

Types Of Links

There are three types of links: Link, ALink (Active Link), and VLink (Visited Link). You can set specific colours for each type of link.

The Link colour is what users see when they haven't visited the target of the link.

The ALink colour is what the users see while they click the link.

The VLink colour is the colour the link appears in after a user has visited the target of the link.


To set colours for links in your document, choose Modify > Page Properties. Next, choose a colour in the Link, Active Link, and Visited Link colour lists. Click 'OK'.

around your linked image, enter "0" in the 'Border text' box. The border will disappear but the link will still be live.

Arranging Palettes

 Dreamweaver palettes are a wonderful feature of the software, however they can become a hindrance when they obscure portions of a Web page. One quick way of moving all the active palettes out of the way is to choose Window > Arrange Palettes. This automatically pushes every active palette to the side of the screen.

Combining Palettes

 Part of Dreamweaver's ease of use comes from the multiple palettes you can use to assign or modify HTML attributes. Because the palettes take up valuable screen real estate and obscure your Web page, they can quickly become a hindrance. Fortunately, you can consolidate most palettes into one tabbed palette.

To do so, open a few Dreamweaver palettes, click one palette's title bar, and drag that palette onto another. Dreamweaver will combine the palettes into one palette and create a tab for each merged palette. Note that the Properties, Launcher, and Site palette cannot be combined with other palettes.

Photoshop

Fitting Into A New Size

There are many situations where you'll need to get an image to fit into a specifically sized space. If you've been trying to resize graphics and they've ended up squished horizontally or vertically, this tip should help you out and keep your images from being digitally abused.

The size of our example image is 584 pixels high by 400 pixels wide. We need to resize the image so that the final size is 200 pixels high by 300 pixels wide.

To find the size of your image, select **Image > Image Size** from the Photoshop menu bar. This dialog box gives you the width, height and resolution of your image. You'll see a checkbox next to the word 'Proportions'. (Note: in Photoshop 4 and 5, this checkbox is labelled 'Constrain Proportions'.) Don't uncheck that checkbox. Your image will be squished if you do.

Let's uncheck that 'Proportions' checkbox, and change the width to 300 and the height to 200 pixels, and take a look at the result.

Use [Ctrl] + [Z] to undo the damage, and select



A Photoshop experiment: resize the image above without keeping the 'Proportions' checkbox checked



The correct way to resize an image: using the 'Canvas Size' option

Image > Image Size again. Leave the 'Proportions' checkbox checked. You want to change only one dimension. Photoshop will then do the math for you and figure out how big the other dimension needs to be in order to retain the correct proportions for your image.

Which dimension do you change? Select the dimension that will need to change the most. In this example, we're changing an image that is 400w x 584h to 300w x 200h. The height dimension in this example needs to change the most, so we'll change the height from 584 to 200.

Photoshop scales the width size proportionately, making the image 137 pixels wide.

Now you'll need to change the width of the image. You don't want to use **Image > Image Size** for this. Instead, we'll use the **Image > Canvas Size** function.

What the Canvas Size does is add pixels to your image, and it fills them with whatever background colour you selected.

Canvas Size changes the size of your image by adding to it, leaving the original image unchanged. The Image Size command changes the size of your image by anti-aliasing it.

Change the width number from 137 pixels to 200 pixels.

The Placement graphic gives you a choice of where the extra pixels will go: to the left, to the right of your image, or on either side of your image. We've left the original image centred, which is the default.

In our final image, we selected white as the background colour, so that is what the extra space, added

on either side of the image by the Canvas command, was filled with.

Making Icons With Bevelled Edges

Start out with your file the size you want your finished icon to be—we've used 40 x 40 pixels. Windows standard icons are generally 32 x 32.

The first method of making an icon is the standard toolbar-icon look that many software programs have, and can actually be done in Windows Paintbrush, PaintShop Pro, or any simple basic paint program.

Bucket fill the image with your background colour, which is usually light grey. Draw a one-pixel black border all the way around the icon. (Use the pencil tool with the smallest brush setting. Hold down [Shift] as you draw your line to constrain the pencil to a straight line).

Then, on the bottom and right sides of your icon, inside the black border, draw a darker grey line two pixels wide. On the left and top of the icon, draw a two-pixel white line. At the corners where the grey and white lines meet, stair-step the pixels so they form a 45-degree angle.

The second method can be used to create a bevelled edge not just for icons, but you can also use this to create bevelled edges for photos or scans as well.

First paste in your photo or texture whatever you'll be using as a background in a file the same size as your finished icon. Open your layers palette and add a layer.

On the second layer, draw a two or three pixel border in dark grey on the bottom and left sides of your file. On the top and right sides, draw a two or three pixel white border. Make sure that your corners where the grey and white meet are 45-degree angles. Now, drag the transparency slider at the top of the layers palette until it looks right. You can save this layered file as a .psd file to use later as a template for future icons.

Create Custom Brushes In Photoshop

You can create custom brushes in Photoshop. Open a new file, and make sure the 'Brush Palette' is open on screen.

You can create a brush up to 999 by 999 by pixels, which would be the digital equivalent of painting with a mop.

You'll want to keep your brushes on the smaller side, especially if you will be using them to create Web graphics.

For this example, we opened a small file, 100 pixels by 100 pixels, and selected **Filter > Add Noise**, using the Monochrome setting. We repeated the Noise filter ([Ctrl] + [F]) several times.

You'll find that brushes with soft edges are much more useful than brushes with hard edges.

To soften the edges of the brush, select an area of the image (about a quarter of the way in from all of the edges), then go to **Select > Feather**, then **Select > Inverse**. Fill the selected area with white.

Select the area of the image that you want to use as a brush. Next, from the flyout menu from the Brush Palette, select 'Define Brush'.

A new icon will appear on the brush palette for your new brush. You can save your new set of brushes by selecting 'Save Brushes' from the palette.

It helps to add to the default brush palette, rather than create an entirely new one. Also, it helps to test out the brush before you save it.

You can always delete a brush from the palette by selecting the icon for the brush, then selecting 'Delete Brush' from the flyout menu on the Brush Palette.

You can use the Brush Options on that same flyout menu to set the way the brush tracks.

Moreover, the default setting is 25—that is a percentage of the size of the brush, so the brush shape will repeat that often (depending on your settings in the Options palette). ☑

Intel Motherboards

Mercury PI915GVM

- ☑ Supports PCIE, DDR/DDR II RAM, 6-channel audio
- ☑ Only 2 PCI slots. No SATA.

Contact Kobian ECS India Pvt Ltd
Phone 022-23020767 / 774
E-mail mumbai@kobian.com
Price Rs 5,000



Gigabyte 8TRS 350MT

- ☑ Supports 4GB DDR 400 RAM, SATA, 6-channel audio
- ☑ Socket 478, AGP

Contact Gigabyte Technology (India) Ltd
Phone 022-26526696
E-mail sales@digigiga.co.in
Price Rs 4344



Portable Hard Drives

WD-Media Centre 250GB

- ☑ Very low cost per MB
- ☑ Memory card reader slots

Contact Western Digital
Phone 022-25851085
E-mail ajay.kapure@wdc.com
Price Rs 14,999

Freecom FHD-2 Pro 80 GB

- ☑ Extremely compact; bundled carry case

Contact J S Equipments
Phone 022-23810713
E-mail jse@vsnl.com
Price Rs 15,400



Projectors

Acer PD11

- ☑ High 1600-lumen brightness support
- ☑ Large 330-inch diagonal image size capability
- ☑ Picture-in-Picture mode

Contact Acer India Pvt Ltd
Phone 080-25219520
E-mail rajesh.aiyar@acer.co.in
Price Rs 62,999



Cell Phones

Sony-Ericsson K700i

- ☑ Extensive feature set; includes camera, MP3, FM radio, etc.
- ☑ Fast processor

Contact Sony Ericsson
Phone 0124-2560808
E-mail dhiraj.soni@sonyericsson.com
Price Rs 11,200

CRT Monitors (17-inch)

Acer AC715

- ☑ High resolution of 1600 x 1200 @ 75 Hz
- ☑ Good reproduction of finer details

Contact Acer India Pvt.Ltd.
Phone 080-5219520
E-mail rajesh.aiyar@acer.co.in
Price Rs 6,995

Viewsonic E71f

- ☑ Aesthetically appealing
- ☑ Good geometry reproduction

Contact Roop Technology Pvt Ltd
Phone 022-26680022
E-mail roop@vsnl.com
Price Rs 7,200



The A-List

The best products tested so far in different hardware and software categories

AMD Motherboards

WinFast NF4K8MC

- ☑ PCIE-based, 8 channel audio, Gigabit LAN, socket 939
- ☑ No on-board graphics

Contact Mediatech India
Phone 022-26361111
E-mail digit@mediatechindia.com
Price Rs 4350



MSI RS480M2-IL

- ☑ + PCIE based, 6 channel audio, supports 4 GB RAM, socket 939, Firewire port
- ☑ No Gigabit

Contact Tirupati Enterprices
Phone 033-22251192
E-mail mail@tirupati.net
Price Rs 5395



PDA Phones

Nokia 9500 Communicator

- ☑ Full QWERTY keyboard
- ☑ Slightly bulky

Contact Company: Nokia India Ltd
Phone 011-22677900
E-mail jay.bakshi@nokia.com
Price 35,000



02 XDA II Mini

- ☑ Small, thin and pocketable
- ☑ One-handed operation not possible

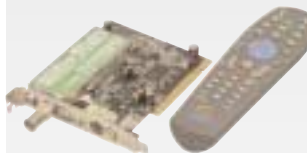
Contact Creative e-biz
Phone 022-23828100
E-mail creative@goldkist.net
Price Rs 32,000

Internal TV Tuner Cards

Compro VideoMate PVR/FM

- ☑ Exceptionally clear TV reception quality, low price, FM radio, good PVR software

Contact Mediatech India
Phone 022-26361111
E-mail sales@mediatechindia.com
Price Rs 1,995



Mercury TV Tuner Card

- ☑ Good TV reception quality, FM radio, low price
- ☑ PVR software is basic

Contact Kobian India Ltd
Phone 022-23020767 / 0774
E-mail mumbai@kobian.com
Price Rs 1,850



CRT Monitors (19-inch)

Samsung SyncMaster 997DF

- ☑ Good colour reproduction
- ☑ Compact

Contact Samsung Electronics India
Phone 011-51511234
E-mail marketing@samsungindia.com
Price Rs 13,999



Samsung SyncMaster 957MB

- ☑ Brightness modes for different viewing environments
- ☑ Good colour reproduction

Contact Samsung Electronics India
Phone 011-51511234
E-mail marketing@samsungindia.com
Price Rs 15,999

LCD Monitors (15-inch)

Acer AL1512

- ⊞ Very competitively priced
- ⊞ Good contrast ratio
- ⊞ No vertical swivel

Contact Acer India Pvt. Ltd
Phone 080- 5219520-23
E-mail Rajesh.Aiyar@acer.co.in
Price Rs 9,999

CMV CT-529A

- ⊞ Good colour reproduction
- ⊞ High contrast ratio

Contact Cee Vision Technologies Pvt Ltd
Phone 022-26733353
E-mail chemoplastmumbai@vsnl.net
Price Rs 12,000



Home Inkjet Printers

Pixma iP1000

- ⊞ Economical; decent photo printing.
- ⊞ No output tray; no PictBridge

Contact Canon India Ltd
Phone 0124-5160000
E-mail www.canon.co.in
Price Rs 3,195



HP Deskjet 3745

- ⊞ Fast printouts, excellent price
- ⊞ Below-par photo printing

Contact Hewlett Packard India Ltd.
Phone 0124-2566111
E-mail www.hp.com
Price Rs 2,999

Photo Inkjet MFDs

HP PSC 2608

- ⊞ Inexpensive, excellent and fast text and photo printing

Contact Hewlett Packard India Ltd
Phone 0124-2566111
Website www.hp.com
Price Rs 14,999

Office Inkjet MFDs

Lexmark X7170

- ⊞ Full featured MFD, fast printing and copying speeds. Decent quality photo prints
- ⊞ No memory card reader; B&W LCD screen

Contact Lexmark India Ltd
Phone 022-26057755
Website www.lexmark.com
Price Rs 14,999



Laptops

ACI Emerald C2

- ⊞ Inbuilt Web camera
- ⊞ Affordable

Contact Allied Computer International
Phone 022-56943260
E-mail hirji@aci-asia.com
Price Rs 42,999
Website www.aci-asia.com



MSI MegaBook M510C

- ⊞ Terrific performance, typical feature set
- ⊞ High screen resolution
- ⊞ Average wireless LAN performance

Contact Maxtone Electronics
Phone 022-23011434
E-mail maxtone@vsnl.com
Price Rs 68,000

LCD Monitors (17-inch)

Acer AL714sm

- ⊞ Light
- ⊞ Good greyscale reproduction

Contact Acer India Pvt Ltd
Phone : 080-5219520 / 23
E-mail rajesh_aiyar@acer.co.in
Price Rs 14,999



CMV CT-712A

- ⊞ High luminance
- ⊞ Good coloured text reproduction

Contact Cee Vision Technologies Pvt.Ltd
Phone : 022-26733353
E-mail chemoplastmumbai@vsnl.net
Price Rs 17,000

Office/ Photo Inkjet Printers

Canon Pixma iP 3000

- ⊞ Fast, excellent photo and text printing
- ⊞ No LCD

Contact Canon India Ltd.
Phone 0124-5160000
Web site www.canon.co.in
Price Rs 8,495



Canon Pixma iP 4000

- ⊞ Fast, excellent photo and text printing
- ⊞ No LCD

Contact Canon India Ltd.
Phone 0124-5160000
Web site www.canon.co.in
Price Rs 10,995

5.1 Speakers

Artis X10 Mini

- ⊞ Compact, sturdy, clear sound
- ⊞ Slightly weak bass

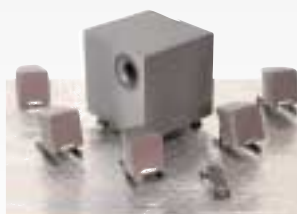
Contact Kunhar Peripherals Pvt Ltd
Phone 022-56345758
E-mail salesbom@kunhar.com
Price Rs 16,500

Creative Megaworks

5.1 550 THX

- ⊞ Excellent bass, easy setup
- ⊞ Satellite speakers marginally low on clarity

Contact Creative Technology
Phone (0)98203 57718
E-mail india_getcreative@ctl.creative.com
Price : Rs 20,490



Fujitsu S2020

- ⊞ Hot-swappable combo drive
- ⊞ Good graphics performance
- ⊞ Average screen readability in sunlight

Contact Fujisan Technologies Pvt Ltd
Phone 022-56368718
E-mail gathani.paresh@fujisan.co.in
Price Rs 78,000



Zenith Presidio Vu

- ⊞ Good battery life
- ⊞ Inbuilt Web cam and SD/MMC card reader support
- ⊞ No recovery CD provided

Contact Zenith Computers Ltd
Phone 022-28377300
E-mail kalpak_bhatt@zenith-india.com
Price Rs 60,000

Motorola V3 Razzr

Trendsetting designs have been the hallmark of many Motorola cellphones but somehow they always fell short of critical acclaim. With the V3 Razzr, Motorola changes all that.

Motorola resorted to space grade alloys for the body panels making the V3 light and strong. At 3.8 x 2.0 x 0.5 inches, the V3 is pocketable.

Feature-wise, you get Quad-band support, Bluetooth, VGA digital camera with 4x zoom, GPRS, PIM functionality, MPEG 4 video playback and Java support. The V3 has 5MB internal memory but no option for upgrading. Targeted at the fashion-conscious, the V3 should make a strong statement.

Company **Motorola India Pvt Ltd**

Price **Rs 20,095**

Phone **0124-2303212**

E-mail **s.sravani@motorola.com**

Rating 



SAFA SR-M850F MP3 player

Too Little For Too Much

The SAFA SR-M850F comes at a time when digital portable music players are freely available and an MP3 player is no longer a novelty unless it screams 'iPod'. Enter the SAFA SR-M850F with nothing less than 512MB of solid state memory and a 65K colour screen!

This is a decent MP3 player and supports all major audio formats such as MP3, OGG, and WMA (sorry, no AAC). It also looks glossy and has two tiny 10 mW stereo speakers on either side. The player is packed with features that put other players to shame. Voice recording, reading text files, viewing JPEG files etc.

Feature-wise, this is a solid product, powered by an internal rechargeable battery that lasted 18 hours of continuous MP3 playback using the bundled earphones.

Priced at a whopping Rs 12,100, though, it is too expensive compared to a 4GB iPod Mini that costs just Rs 500 less!

Company **Arihant Informatique Pvt Ltd.**

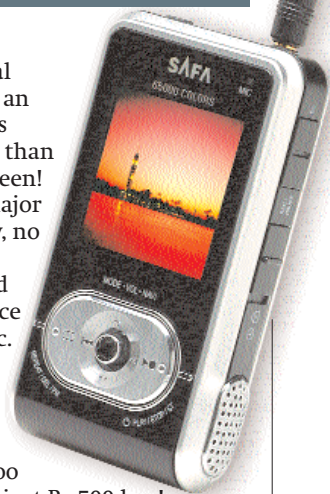
Price **Rs 12,100**

Phone **022-25789494**

E-mail **arihant9@hotmail.com**

Web site **www.safa.co.kr**

Rating 



New & Notable

Samsung Miniket VP-M110S

Great Flaunt Value

A digital video camcorder, digital camera, MP3 player, webcam, voice-recorder and a mass storage device—all rolled into one compact device measuring 70 x 30 x 42 mm and weighing just 80 grams! We are talking about the new Miniket VP-M110S from Samsung.

With internal storage of 1 GB and 10X optical and 100X digital zoom, the Miniket also supports additional memory in the form of MemoryStick Pro. The two-inch foldable LCD supports up to 210K colours, and also acts as viewfinder for the video and image capture, apart from displaying the Menu.

The Miniket connects to a PC using the bundled cradle and a USB cable. Windows XP recognises it as a removable storage device and you can transfer music and other data easily to and from your PC.

The Miniket captures videos at 720 x 576 or 352 x 288. There are three quality options—Superfine, Fine and Normal. In the Superfine mode and at 720 x 576 size, the internal memory can accommodate approximately 22 minutes of footage, provided no other files are stored. Videos use a proprietary MPEG 4 standard licensed from DivX Inc.

For stills, you can choose between 800 x 600 and 640 x 480. An 1280 x 960 extrapolated option is also available, and images are captured as JPEG. The flash works only in the Photo mode, and can be set to Auto, ON/OFF.

Customisable options for video and still image capture include Auto/Manual focus, four White Balance modes (Auto,

Hold, Outdoor and Indoor), and five programmed auto exposure modes—'Auto', 'Sports', 'Spotlight', 'Sand/Snow', and 'High Speed Shutter'. You can choose from seven effects, including Sepia or Negative. 'Electronic Image Stabiliser' and 'Backlight Compensation' are also included.

In terms of performance, image quality was not up to the mark, for either video or photos and there was evident Noise. As far as the MP3 player is concerned, it is primitive at best. All you can do is play and listen to music. You can also record voice files in the WAV format in 8 KHz, 128 Kbps stereo mode. It's good only for voice and all other noises are lost in the background.

The device heats up a bit even when used for a short period. Also, battery life is affected by zooming. In our battery tests (which involved playing assorted MP3's over and over), the Miniket could manage about three hours and 15 minutes on the regular 3.8V 900 mAh battery. However, an 1800 mAh extended battery pack is also included in the package.

The Samsung Miniket is a lifestyle product, and not meant for users who want a dedicated digital handycam or an MP3 player. Still, it's great for those who have the cash to spare and want a product with flaunt value.

Company **Samsung India Electronics Limited**

Price **Rs 39,990**

Phone **011-51511234**

E-mail **a.manchanda@samsung.com**

Rating 



ATI Radeon X800 XL

Waiting To Explode

Recently, ATI launched the Radeon X800 XL graphic card comprising a mammoth, 512 MB of memory. The card is based on the X800 XL (R430) chip which is manufactured using 0.11 micron technology unlike the 0.13 micron being used to produce the X800 XT and the X850 XT from ATI.

This PCI-Express card features dual DVI ports as well as VIVO via a composite port. It features the ATI Rage Theatre chip doing all the work.

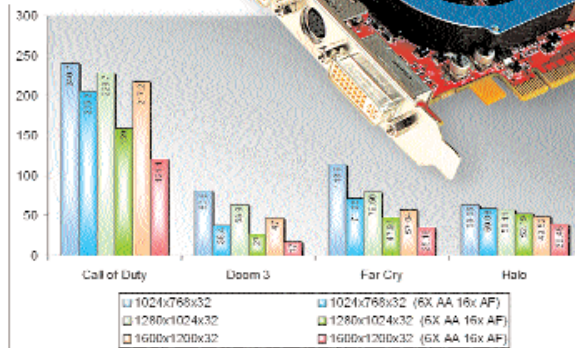
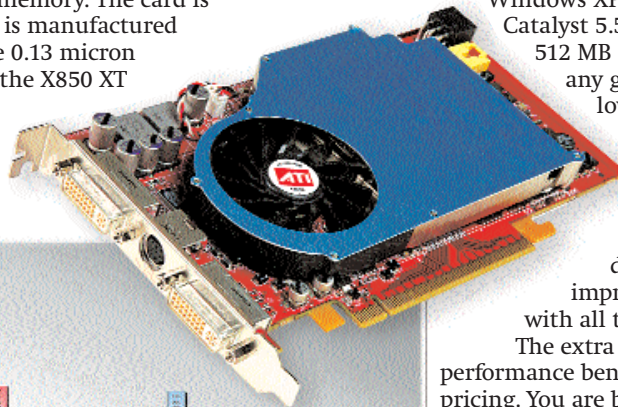
The fan speed is controlled by the drivers and even at maximum load, it was silent. It is a DirectX 9.0b card and has 16 pipelines. The chip is clocked at 400 MHz whereas the memory is clocked at 1 GHz.

The card was tested on a setup using a 3.6 MHz Pentium IV

Prescott processor on an original Intel 925XCV motherboard equipped with Micron 1 GB 533MHz DDR2 RAM running Windows XP SP1. The drivers were Catalyst 5.5. We wanted to see if the 512 MB framebuffer benefited any games. Not much at lower resolutions.

Coming to 3DMark05—often used as an yardstick in graphic performance—the X800 XL scored 5028 on default settings and an impressive 3994 on 1024 x 768 with all the effects cranked up.

The extra memory does not offer a performance benefit to justify premium pricing. You are better off holding on to your present cards!



Company **ATI Technologies**

Price **NA**

Web site **www.ati.com**

Rating 1 2 3 4 5

Bose Wave Music System

Liven Up Your Mornings

The Bose Wave Music System is a surprisingly compact device that functions as an Audio CD/MP3 CD player, FM/AM radio and an Alarm that wakes you each morning to the station or track of your choice, and speakers that'll give any high-end 2.1 system a run for its woofers.

These features are in a sleek black trapezoidal case—also available in platinum white. The centre of the front panel has a bright green display that tells the time, and other information like the ID3 tags in an MP3 CD. The overall look is retro, kind of like the radio alarms you'll see in Hollywood movies from the '80s, yet, has a sleekness about it that gives you an idea of the power beneath. The lack of buttons—all functions are only through its remote—and the slot-based CD underline the design.

The Wave is packed with some nifty features—automatic night-time dimming of its display, a gentle ramping of the volume to its final set position when you turn on the device so you're spared the rudeness of sudden loudness; a power cord that also doubles as an antenna. Thanks to its form factor, setting it up couldn't have been easier.

The sound is crystal clear and rich. Even at full volume, you'll be hard-pressed to find any distortion. Before you run to get this, though, take a look at the price—at Rs 30,000, it can only be called staggering!



Company **Bose Corporation India Pvt Ltd**

Price **Rs 29,990 + taxes**

Phone **011 - 2307 3825**

E-mail **nandita_sood@boseindia.com**

Web site **www.boseindia.com**

Rating 1 2 3 4 5

Looking for more information on any of the products featured here?

Please write to products@thinkdigit.com. The Digit Test Centre will be delighted to respond to your queries.

Mitashi DivX-999 DVD Player

Sometime earlier, we had reviewed the Mitashi DivX-555 player. Now, Mitashi has launched a sibling, the DivX-999. It is similar to the earlier launch but looks much sleeker and has a tray-less slot design. Yes, instead of a tray coming out of the player, you will have to insert the disc into the player.

It plays DVDs, Audio CDs, Video-CDs, MP3 and WMA CDs and DivX and XviD movies and more. Regrettably, though, not WMV files.

Build quality is good, although the remote looks tacky and the laminated keypad plastic soon starts coming off. The remote provides all functions to control the player. Playback quality is good and setup and menu is intuitive.

DivX and XviD playback is good, but if the movie confronts higher bit-rates for a MPEG 4 movie, it starts framing. DVD and Audio CD playback, though, is impeccable and yes, it does play HD-CD's.

The player offers 5.1-channel audio using analogue as well as digital connectivity options.

Overall, this is a good all-round player and the player is region-free, which will let you play DVD's from anywhere without a hitch.

Company **Mitashi Edutainment Pvt. Ltd.**

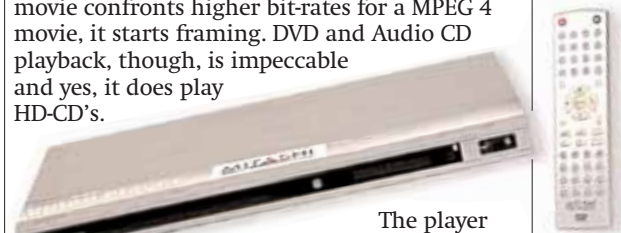
Price **Rs 4,990**

Phone **022 25006661**

E-mail **rakesh@mitashi.com**

Web site **www.mitashi.com**

Rating 1 2 3 4 5



1 Poor: Has serious drawbacks and needs improvement before it can be used for its target application. **2 Mediocre:** Does not live up to expectations, needs improvement in many areas. **3 Average:** Reasonably competent but nothing spectacular about the product. **4 Good:** A good buy, better than most products in its category. **5 Excellent:** A brilliant combination of price, performance and features - far beyond expectations.

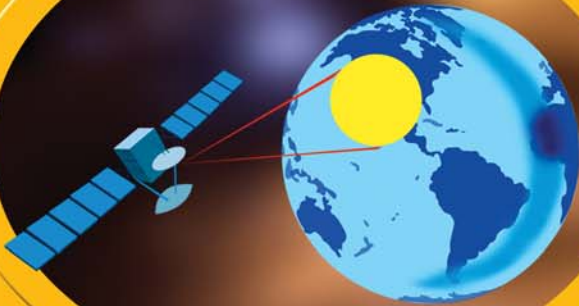


How GPS Works: From The GPS Constellation To Differential GPS

Twenty-seven satellites orbiting the earth are responsible for the location-tracking information any GPS receiver—be it in a car or a ship—receives. Of these, at least 24 are operational at any time, and the remaining ones are used as backups.

These satellites continuously send out strings of bits that synchronise with every active GPS receiver. They also send out information about where they are.

Thus, a GPS receiver always has information about the location of satellites within its range.



I. With Only One Satellite

When your GPS receiver gets a signal from one satellite, it knows where the satellite is, and can estimate the distance between itself and the satellite. The receiver thus knows it is located somewhere in the yellow circle (as shown in the picture above).



II. When Two Satellites Come In

If the receiver can get information from two satellites, it can further refine its location: it now knows that it is located somewhere within the red area—the intersection of the two yellow areas (as shown in illustration above).



How GPS Works



III. The Three-Satellite Scenario

Now, when a third satellite is involved, the receiver knows it is within the green area (as in illustration above)—the intersection of three circles. Ideally, this green area should be a single point, but in the real world, it is not. A fourth satellite is therefore required to pinpoint the location of the receiver.

IV. The Fourth Satellite To The Rescue

When there is information from a fourth satellite, the receiver knows exactly where it is in three dimensions. The latitude and longitude as well as the altitude are then known. The fourth satellite's information does two things; refine what the receiver already knows, and pinpoint altitude adding to the accuracy.

Estimating Distance

One question has remained unanswered thus far: how does the GPS receiver know the distance between itself and a satellite? How can it estimate this?

The answer is that each GPS satellite is constantly sending out a unique stream of 0s and 1s, which identify the satellite. Each GPS receiver is synchronised with all the satellites, as mentioned earlier, and it has the same stream of 0s and 1s generated within it, in synchrony. When a receiver gets a certain signal from a satellite, it gauges the time shift between the internal sequence and that of the satellite. Thus, figuring out how long it has taken the signal to reach it is possible. With this time gap known, the distance can be figured, since radio waves travel at the speed of light.

Differential GPS

So far, that is, with four satellites in the picture, the precision of pointing out a location is between 10 and 30 metres. To refine this further and improve accuracy to within a couple of metres, differential GPS (DGPS) is used.

A GPS receiver, known as the base station, constructed at a place where the latitude, longitude and altitude are precisely known, through geographical surveys, is used to send out DGPS signals. The receiver determines its position according to the information received from three satellites. This recorded position is bound to be a little different from the known position, and it is this difference that the unit broadcasts, via its antenna. Using the difference in signal in addition to the information the receiver already has from the satellites, other GPS receivers can refine their position.

Q&A

Your Questions, Our Answers

Intranet And FTP

Q I am an employee in BSNL. We work on our intranet with dial-up. We got a new HCL Busybee PC with Windows XP Pro version. The problem is that I am not able to run the FTP command at the DOS prompt mode. The message I keep getting is "FTP is not recognised as an internal or external command, operable program or batch file." How do I get the command ftp to run at DOS prompt, so that I can send or receive file from our intranet FTP.

Kiran

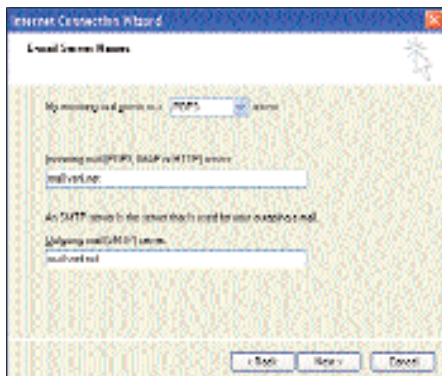
A The FTP command requires that either the file FTP.EXE be present in the folder from where the command is run or that the path to that file is present in the PATH environment variable. FTP.EXE is installed by default with every Windows XP installation to the System32 folder in the Windows directory. The reason for the FTP command not working on your computer could be due to this file being corrupt or the file may have been deleted. You can copy this file from any Windows XP PC from the location mentioned earlier to the System32 directory of your machine, and the FTP command will start working again.

What Is My Server Type?

Q I have a problem with Outlook Express. When I create an account, it asks for the type of server. I don't know what type my server is. What should I enter?

Bapi Roy

A The incoming and outgoing mail server to be specified in Outlook Express depends on the mail provider and your Internet Service Provider (ISP). While the incoming mail server depends on the mail service provider that has provided your e-mail ID, the outgoing mail server depends on your ISP. Since you have not provided your e-mail ID, we advise



Setting up the incoming and outgoing mail servers in Outlook Express

you to contact your ISP for your outgoing server, which is also known as POP (Post Office Protocol) server and if your e-mail provider is different from your ISP, you will have to contact that provider for the incoming server which is also known as the SMTP (Simple Mail Transfer Protocol) server.

Live Update Led To Deletion

Q I own a Compaq Presario M2000 Series laptop. I have been using Windows XP Home Edition Version 2002 Service Pack 2. I am using the CMD Command Prompt (DOS-based). Till recently, all my DOS applications were working fine. However, after a Live Update operation, a file named AUTOEXEC.NT in C:\Windows\System32 folder, was deleted automatically. Now, I had to copy this file from C:\Windows\System32\Dllcache.

However, whenever I restarted the laptop, it always deleted the AUTOEXEC.NT. I have also tried the 'System Restore' option from HP but to no avail.

Dipak Sheth

A You do not need to set the environment variables in Autoexec.NT and Config.NT. There is an easier way to set the environment variables in Windows XP/2000/2003. Open the 'Control Panel' and open the 'System Properties'. Alternatively, you can bring up the 'System Properties' by pressing the 'Pause'/'Break' key while keeping the Windows key pressed. Now, navigate to the 'Advanced' tab and click the 'Environment Variables' button near the bottom of the window.

Here, at the top, you can set user variables for the current user only by clicking on 'New', entering the variable name and value and clicking 'OK'. To modify a variable, click on the variable and click 'Edit' and modify the name(s) or value(s). To delete a variable, click on the variable and then hit 'Delete'.

At the bottom, you can set global environment variables, which are applicable to any user who logs into Windows. You must belong to the Administrator group in order to be able to set new variables or modify any variable. As always, you need to restart Windows for the changes to take effect.

The Space Saga

Q I have a Celeron 1.7, Windows 2003 Server with Exchange Server 2003 installed. Problem is, when my PC restarts, its root partition C: has around 400 MB free space. But, as I run any applications, the space gets filled and after some time, it is "0 Bytes". I also checked for any Log or .tmp files, viruses, but everything seems OK. What could be the cause and what is the solution?

Prasad Thombre

A Windows 2003 Server requires a page file, which is nothing but a swap file located in the root partition—usually the C: drive, in order to function smoothly. The page file is utilised as

virtual memory, an extension to the amount of physical RAM available in the system, when the amount of physical RAM is insufficient for certain applications. The size of the page file depends on the amount of RAM and generally ranges from 1 to 1.5 times that amount.

You have mentioned at the start of Windows, the C: drive has around 400 MB free space. For Window 2003 Server, this amount of space is too low and hence the page file expands and occupies all the available space after some time and you are left with almost no space on your C drive.

The solution is to move some of your data and applications to another drive to free up as much space as possible on your C: drive. Once you do this, you will find Windows 2003 Server perform much better.

A Strange Scratching Sound

Q Recently, I got the DVD version of American Army Special Forces (Firefight) 2.3.0 from a friend, but unfortunately, it is 766 MB in size and exceeds the size of a CD-R which is 700 MB.

I want to know how to write the installer package in two different CDs so that when I install it on my computer, the PC detects that the installation is not complete and there is more on a second CD.

Secondly, for the last few days, whenever I start my machine, it emits a whirring sound as if something is getting scratched. I think the sound is from the fan of the SMPS, but I am not sure. After running for sometime, it either stops or reduces to a minimum. What is happening?

Udayan Misra

A Writing a 766 MB file to a CD is not a problem these days, as 800 MB CD-R media are available. All you need to do is start Nero, click on File > Preferences, click the 'Expert Features' tab and check the 'Enable Disc-at-once CD overburning' as well as 'Enable generation of short lead-out' and click 'OK'.

Insert the media and start burning the file to it. When prompted, choose to overburn and the CD will be created. Remember, some older CD writers might not support overburning and hence, you won't be able to create a CD using those CD writers.

If that's the case, then you may use a compression utility such as WinRAR to



create an archive that can be split into volumes of 700 MB. You can later burn these archive files to CDs.

Your second problem strongly points to one of the fans in your computer being obstructed. Open the cabinet and see if the CPU fan, graphics card fan or any other fan is obstructed by cables or wires.

If so, relocate the wires to a location away from the fan blades. If the SMPS fan seems to be making the noise, then you are advised not to open the SMPS yourselves as there is risk of an electrical shock. Call a hardware engineer to solve the problem.

I Want To Play DAT File, Now!

Q I have SuSE Linux 9.1, Mandrake 10, ELX 4.0 and Knoppix 3.3. I want to write a VCD with Linux. I tried doing this with the K3B software by Linux, but it asks for package VCDIMAGER from vcdimager.org. I downloaded it from the Internet. It contains some 'C' files and others but no .rpm files. I tried those, but in vain. How can I install this package? The Linux versions I have can't play the

.DAT files except ELX; the rest play only .MPEG files. Is there any package that plays these files?

Amit Pawar

A The files that you downloaded from vcdimager.org are tar.gz files which you must extract using a file extraction utility such as GZIP from www.gzip.com. Since these are source files, you will have to compile them and then install the package.

Alternatively, you can install NeroLINUX which is nothing but Nero Burning ROM for Linux. Download it from http://snipurl.com/flb5. You can use this to create VCDs just like you use Nero for Windows. You can download and install MPlayer from www.mplayerhq.hu. It will let you play a host of file formats including .DAT files.

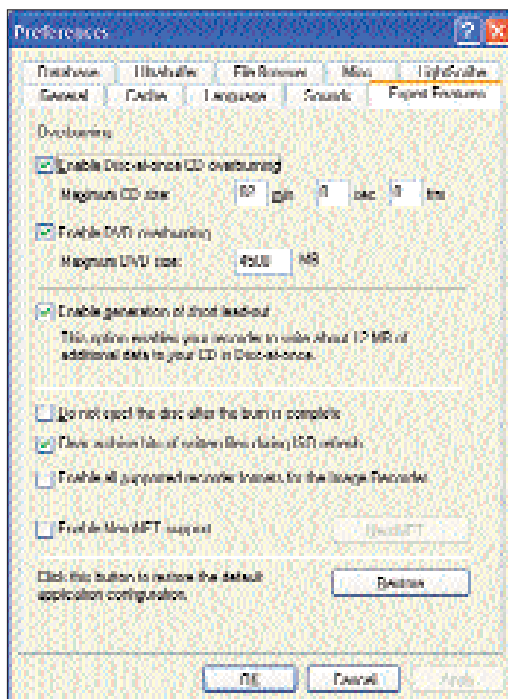
Avid For Viewing

Q I have Windows XP SP2 installed on my computer. I had installed AutoPatcher from the Digit DVD and disabled previewing of .AVI files. Please tell me how I can enable this again. When I turn on my PC, a warning is displayed that reads: "Your Firewall is turned OFF". When I try to turn it 'ON', an error message is displayed, "Cannot Turn ON Firewall".

Param Partap

A In order to enable the preview of AVI files in Windows Explorer, open the registry editor. Navigate to the following branch, HKEY_CLASSES_ROOT\avi\ShellEx. Right-click in the right pane and select New > Key. Name this key as {BB2E617C-0920-11d1-9A0B-00C04FC2D6C1}. Include the brackets too.

Next, double-click in the default string inside this key and set its value to {c5a40261-cd64-4ccf-84cb-c394da41d590}. Again, you must include the brackets. After you log off and log on again, the AVI preview in Windows Explorer will be enabled.



Enable overburning in Nero

Collect News Via FeedDemon

With an RSS reader, you won't have to visit your favourite news sites over and over

Usually, to collect news snippets from the Internet, you have to visit your favourite Web sites over and over again. Not anymore. With an RSS reader, these news snippets can be delivered directly to your desktop, just like you get mails in Outlook. FeedDemon is one of the better solutions available for news aggregation on the Windows platform.

1 Installing The Software

FeedDemon is an application you need to install. The interface is similar to that of Microsoft Outlook 2003. A trial version of the software can be downloaded from www.bradsoft.com. Installation is a straightforward process, and is similar to other Windows applications. Just double-click the installation file and follow the instructions.

2 The FeedDemon User Interface

Once installed, a wizard walks you through the configuring process, and also introduces you to various aspects of the application.

There are three panes. The first, on the extreme left, is the 'Channel' bar; the middle one shows news items, and the right-most pane is a browser that allows you to read news from the selected Web site.



The FeedDemon User Interface

3 Default Channel Groups

The wizard has some pre-configured channel groups so you can start using the application straight out of the box. A channel group is a collection of similar news channels, for instance, in the technology channel group, you can add news channels from Anandtech, Tomshardware, CNET, and other Web sites—just check the channel groups you would like to subscribe to.

You can also go one step forward and select specific channels in the channel



The default channel groups

group. To do so, click on the '+' sign and expand the list, and then select channels that suit your taste.

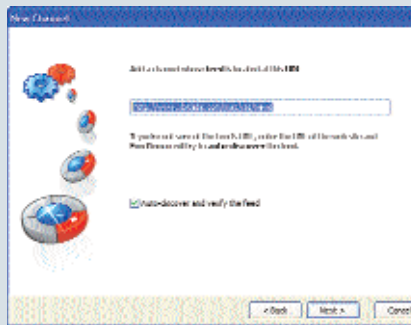
4 Subscribing To A New Channel

At times, you might feel like subscribing to a particular blog or a specific Web site that offers RSS feeds but is not included in the default channel list. You will need to manually add it to the channel bar.

For adding a new channel, go to File > New > New Channel. The New Channel dialog box will open, if you have the URL of the blog or the Web site (often offered by Web sites and blogs) select the first option and click 'Next'.



Subscribing to a new channel



The second step in the process

Paste the URL in the box and select the checkbox that says 'Auto-discover and verify feeds', then click 'Next'. After entering the URL, select a name for the channel, and select the channel group for the same, so that your feeds are properly organised.

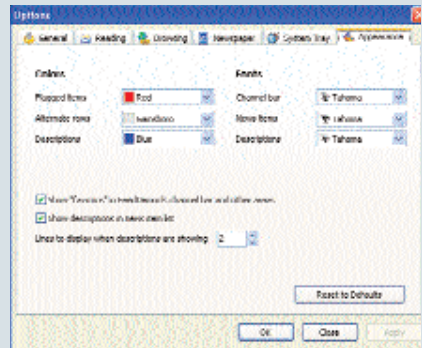
5 Reading A News Item

The news item pane will list recent news snippets from a particular channel with a short lead. Just double-click the snippet in the news items pane, and the adjacent browser will take you directly to that particular Web page.

To read the next snippet, simply repeat the process. The browser supports tabbed browsing, so you can open multiple windows if you like.

6 Customising The Look And Feel

You can customise the look and feel of the interface from the 'Options'



Customising FeedDemon

page. Go to 'Tools' and select 'Options' to open the configuration page, or hit [F8] to do the same. From this page, you can change the look and feel of the interface, as well as settings related to your connection and also to other features.

7 Advanced Features

FeedDemon also includes a filtering system that allows filtering of inbound news based on keywords. These news snippets are delivered to the 'Watches' pane.

To add keywords, go to File > New, and select 'New Watch'. A new watch dialog box will open. Add a tile to the watch, then key in the keywords and click 'Finish'. Once done, it will segregate news items with the keywords separately in the watches pane.

PC Appears Critical

Q My PC configuration is as follows: an Intel Pentium IV 2.4 GHZ, 256 MB DDR RAM, a Seagate Barracuda 80GB hard disk, and Intel 845GEVB2 motherboard. Recently, while downloading software from the net, my PC hung and after 15 or 20 seconds, my screen went completely black and displayed a message in blue with an error code "STOP: C000021a (fatal system error)". After this message, I shut down my PC and restarted it. Still, I keep getting this message: "Your computer has recovered from a critical error". I scanned my PC, but it didn't show any reason for the error messages. Is there a major problem?

Appu Sarkar

A 'STOP: C000021A' is an error that often occurs due to pending file-rename operations scheduled in the Windows XP registry that for some reason can't be completed. The software you were downloading is possibly an online installation program that scheduled a file to be renamed on the next restart of Windows. This is due to the file being in use and hence, cannot be deleted during the current session of Windows.

During the boot process, Windows registry checks for the file rename operation scheduled to be completed, and if it finds that the file or folder does not exist, then the above error is generated.

This error can be corrected using the registry editor. However, be warned that fiddling with the registry can be dangerous if not done with care. Use the registry editor at your own risk. Moreover, you will need to perform a parallel installation of Windows XP. A parallel installation of the operating system is an installation to the same drive and volume as an existing installation of Windows XP.

To enable firewall in Windows XP SP2, follow these steps: Right-click on the 'Internet Connection' icon in the 'Network Connection', which is in the 'Control Panel' and click 'Properties'.

Next, click the 'Windows Firewall' tab and select the 'ON (recommended)' radio-button. Click 'OK'. Your firewall should now be enabled. If this doesn't work, your Service Pack 2 installation is probably corrupt, and you will have to re-install Service Pack 2.

A better option would be to install a third-party firewall such as Sygate Personal Firewall, which is free and can be downloaded from <http://snipurl.com/24pi>. It's much better than the firewall that comes free with Windows XP SP2.

Who Does This Computer Belong To?

Q I have two Operating Systems—Windows 98 SE on C: and Windows XP on D: drives. Whenever I format C:, or re-install Windows 98 SE, I lose the ability to boot into Windows XP, as its boot.ini file resides on C:, which gets deleted during reinstallation of Windows 98 SE. So, along with Windows 98, I also have to re-install Windows XP. Is there any other way to install Windows 98 without having to install Windows XP or to retain the boot.ini file?

From the parallel installation of Windows XP, start the registry editor by going to **Start > Run** and entering `regedit` and clicking 'OK'. In the 'File' menu, click 'Load Hive' and type the path to the System hive of the original installation of Windows XP. This is typically:

`C:\Windows\System32\config\system`

Click 'Open'. When prompted for the name of the key, type 'TEST', and view the following registry entry: `HKEY_LOCAL_MACHINE\TEST`. Note the setting for the Current DWord value in the preceding registry key. This is represented as `CURRENT:Reg_DWord:0x1`. This indicates that the "CurrentControlSet" for your Windows XP installation corresponds to `ControlSet001`. A value of '2' indicates that `ControlSet002` will correspond to the "CurrentControlSet" of your original Windows XP installation. Locate the following registry key:

`HKEY_LOCAL_MACHINE\TEST\ControlSetXXX\Control\Session Manager` where XXX is the CurrentControlSet identified in the previous step. Under the 'Session Manager' key look for 'PendingFileRenameOperations' entries and delete them. Click 'TEST' hive, next, click the 'File' menu and click 'Unload Hive'. Again, click the 'File' menu and click 'Load Hive'. Locate and load the software hive of the original Windows XP, which are typically located at `C:\Windows\System32\config\Software`. When prompted for the key, enter `TEST2`. Here, look for and delete any PendingFileRenameOperations entries in the following registry keys:

`HKEY_LOCAL_MACHINE\TEST2\Microsoft\Windows\CurrentVersion\RunOnce`, and

`HKEY_LOCAL_MACHINE\TEST2\Microsoft\Windows\CurrentVersion\RunOnceEx`. Click on the `TEST2` hive and then click the 'File' menu and click 'Unload Hive'. Quit the registry editor and boot into the original installation of Windows XP.

I have also tried copying the boot.ini file but that does not seem to work. I have a few music files with the extension .ram downloaded from Internet.

While trying to find a player for it on the Web, it refers to the 'Real Audio Media Player', which I later installed from the Digit DVD, but it could not play the above file. In its supported file list, .rm is present. I have many Hindi movie DVDs. Please suggest software to cut songs from the VOB files.

Soumyadeep Mitra

A As for your first question regarding multiple operating systems, refer to the answer provided in the Q&A section of the June 2005 issue of *Digit*.

The files with extension .RM and .RAM are Real Media files and can be played using RealPlayer basic version, which can be downloaded from www.real.com or using Real Alternative, which was carried in the June 2005 DVD of *Digit*. If you are still not able to play the file, chances are the file you have is corrupt.

There is a lot of software available to cut VOB files and save as AVI. Dr. DivX is one such software and can be downloaded from www.divx.com, and it's shareware. Another software, a freeware known as Vidomi can be downloaded from www.vidomi.com. ■



Get Help Now!

E-mail us your computing problems along with your contact details to sos@jasubhai.com, and we may answer them here! Since we get more mails per day than we can handle, it may take some time for your query to be answered. Rest assured, we are listening!

Gamer's Delight

Agent 001 decides he wants a future-proof gaming beast

It's been almost two years since I assembled my AMD machine with an Athlon XP 2400+ on an MSI K7N2G motherboard. All these days, I have been avoiding playing games—a complete waste of time once you get hooked, if you ask me. But, despite my best efforts, I couldn't resist the temptation—and joined our *Skoar!* team members for some 'fragging' sessions.

From then on, a daily adrenalin rush was a must to facilitate sound sleep! Back home, the onboard nVidia2 Graphic chip could hardly deliver when it came to *Doom 3* or *Far Cry*. This was reason enough for me to upgrade and shift to the next level of performance.

The problem, though, was that upgrading just the graphics card was not enough. Also, I would end up with an AGP card, a breed with one foot in the grave. So, a complete platform overhaul was called for.

Join me on the journey, which saw me upgrading my PC to something that will last long—very long—and will allow me to play most of the games out there. Before asking "AMD or Intel," ask which platform offers upgrading headroom. To cut a long story short, ask "PCI-Express or AGP?"

When you're talking about a gaming machine, a lot will depend on which of these standards your motherboard supports. PCI-Express is the technology of tomorrow, and is the way to go.

Choosing between Intel and AMD is something better left for you to decide (read *Digit's* Processor Performance Test in the January 2005 issue for more).

I have always been an AMD fan, so it was decided that an AMD platform based on PCI-Express would be it.

My first stop at Lamington Road was a small shop. For some reason, the salesman was insistent on selling me a Sempron processor on an Asus board. "No thank you," I told him as I moved on.

The salesman in the next shop was better at tech, and offered me some insights. According to him, you can have a 754-pin or a 939-pin AMD Athlon 64 processor, the latter offering dual-channel memory support and hence, better performance at the same clock speed.

Hmm... what about clock speeds, I asked? "It starts from as low as 2800+ and goes up to 3800+, but we generally stock

PCI-Express is the technology of tomorrow, and is the way to go

processors up to 3200+, because there is hardly any demand for other clock speeds," he replied.

Next, what about PCI-Express? Can I use it with a 915 chipset? I could see the salesman was about to break into a bout of hysterical laughter, but he controlled himself admirably and explained that although the 915 chipset supports PCI-Express, it is for Intel processors and not AMD. I was impressed, and decided to lend him my ears a little longer.

On an AMD platform, nVidia and ATI have some good motherboards that support PCI-Express, I was told. Motherboards based on ATI's RS480 chipset and nVidia's nForce4 are selling like hotcakes, especially boards based on the former chipset. These boards retail for around Rs 6K.

What if I wanted to put together two graphics cards for the ultimate gaming experience? Motherboards based on nVidia's nForce4 chipset offer this functionality, and this is called SLI (Scalable Link Interface), but these motherboards are really expensive, I was informed. How much? More than Rs 15K, and they require a pair of special graphics cards. A pair of 6800 GTs should set you back by Rs 60K! Well, that's a lot of money, and I skipped the idea. I had no plans of settling for the ATI chipset, so I opted for a Gigabyte board based on the nForce4 chipset for around Rs 5.5K.

The salesman was a little upset when I asked him about Intel solutions, but he replied that 915 chipset boards are the best bet for PCI-Express platforms from Intel. He also cautioned me that a new replacement chipset for the 915 is due in a month, and that it boasts of support for dual-core Intel processors. Dual-core! What about AMD dual-core processors? They are to be launched somewhere in late October or November, and will be compatible with existing motherboards.

Nevertheless, I had to settle for a graphics card, and, in my opinion, nothing offers better value for money than cards based on nVidia's 6600 GT. The shop had a Leadtek 6600GT for Rs 12.5K, and I was only happy to buy one!

So, finally, my gaming rig looks like this: an AMD Athlon 64 3200+ 939-pin, a Gigabyte nForce4 motherboard and a Leadtek 6600GT graphics card. A steal of a deal for Rs 25K. Not bad, eh? ☑

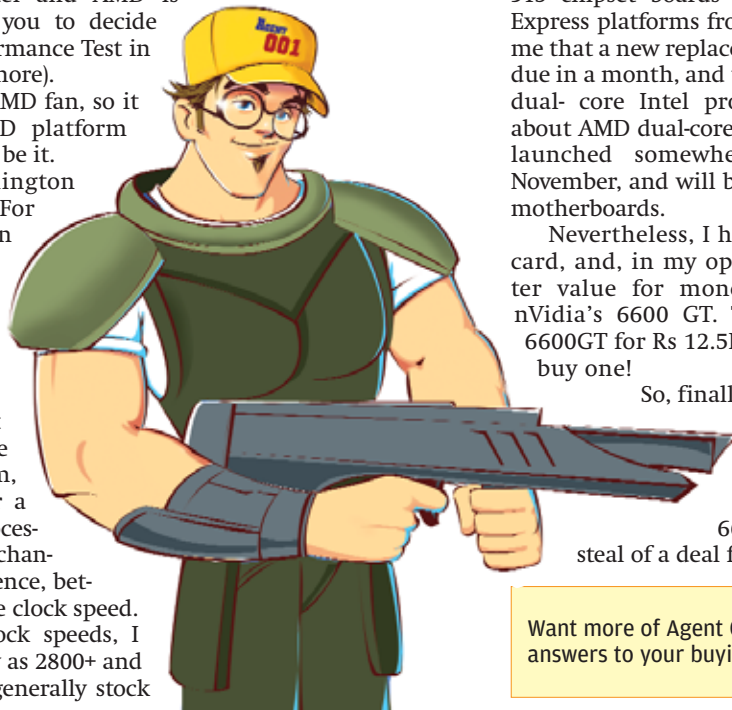



Illustration Shyam Shiram

Want more of Agent 001? Turn over to read his answers to your buying questions

A Basic Digicam

Q I plan to buy a digital camera in the range of Rs 6K to 8K. I am a casual shutterbug—all I am looking at is a decent point-and-shoot camera. Good picture clarity, reasonable amount of storage memory and compact size are the more important considerations. Also, I'd like to go for a known brand.

Kiran

 There are many good digicams in the price range you're looking at. Depending on the features, the price will vary between Rs 8.5K and 10K. Canon's PowerShot A310 and A400 are retail at around Rs 9K, while Nikon Coolpix 3100 and Kodak EasyShare CX7220 are available at around Rs 8.5K. On the features front, Canon's A400 leads the pack with a 3.2 megapixel (MP) sensor, while the rest have a 2 MP sensor. However, when making a buying decision, you should also take into account after-sales service, as these digital cameras tend to turn into photogenic paperweights if they develop problems. Find out which of the above-mentioned companies have a good network in your city.

An AMD Gaming Rig

Q I want to build an AMD-based gaming rig. Initially, I thought of getting an AMD Athlon FX 53, but I could not find a retailer selling it, nor was I able to get hold of the FX 51. Also, on the Athlon 64 side, only the 3500+ is available at the top end. Which is the right one for me? Since you always advise good power supplies, I want to install a 400W Antec or VIP. Is that a fair choice? Also, is the iBall cabinet with its own SMPS good, or should I go for one of the above? Which memory should I opt for? Hynix, Kingston...?

Mohith

 Top-end AMD processors are hard to find in the retail market. If you want to buy any of them, you will need to contact AMD's main distributor in India, Tech Pacific, on 022-55960101. You can also write to pratik.chube@techpacindia.com for more information on AMD processors.

As for the SMPS, although the iBall cabinets offer a power supply like all other case manufacturers do, they hardly match up to the performance and reliability offered by Antec or VIP. If I had to buy one, I would bet my money on Antec.


Buy memory modules from any vendor—just make sure they are genuine and compatible with your motherboard.

Gimme The Graphics—Price No Bar

Q I want to buy a graphics card. I have a Pentium 4 processor plugged onto a 915-chipset motherboard. Which graphics card can play all the games (well, almost all) available in the market, and also forthcoming titles such as *Quake 4* and the like? Money is not an issue.

Vedamurthy Rajarajan

If you want the best of the best graphics cards, go for a card based on the 6800 Ultra chipset from vendors such as Gainward, MSI or Asus


 Cards based on nVidia's 6800 Ultra chipset offer the best performance, albeit at a significant price. So, if you want the best of the best graphics cards, go for a card based on the 6800 Ultra chipset from vendors such as Gainward, MSI or Asus, and expect to pay around Rs 40K. With this card in your system, you can play any game with all the eye candy on, and, at resolutions as high as 1600 x 1200.

Hot In Hyderabad

Q I have a computer with a 2.8 GHz HT-enabled Pentium 4 processor. After a few months of use, I've noticed that the system gets hotter as I play games or run it for few hours. Once the system gets hot, the fans whirl faster, emitting a loud noise.

After some research on the Internet, I found that using a good thermal compound helps a lot. Arctic Silver seems to be the best thermal compound, but I am unable to locate it in Hyderabad. Can you help in locating a dealer?

Naveen


 The new Pentium processors based on the Prescott core generally tend to run hotter, and hence, if you have one, your system will run hot. The heating is nothing to worry about; however, the resulting noise from the fans can be irritating. Good thermal compounds do reduce temperatures, but don't expect miracles. Your computer's temperature will go down by about 4 to 5 degrees at best. Still, if you want to give it a try, you can call G Bhatia from Prime ABGB Pvt Ltd on 022-23896600.

Of RAM Latencies

Q I have an AMD Athlon XP 2400+ CPU on an Asus A7N8X-Deluxe board. I want to buy 512 MB of DDR 400 MHz TwinX memory modules from Corsair. Four types of TwinX are available, out of which the XL and XLPT have the lowest latency, LL is of low latency and the regular TwinX is of normal latency.

What is latency? Should I buy RAM of higher or lower latency? What RAM module should I buy to get the maximum performance from my system?

Shujat Ali

 All computer components have some amount of latency, i.e., the time required to react after it receives a signal to send or receive data. When the CPU requires some data stored in RAM, it takes some time for the data to reach the processor due to the latency of the memory module. Hence, if your memory modules have low latency, they will transmit data faster, which translates into better performance. The TwinX XL, XLPT and LL all have extremely low latencies compared to regular memory modules, so they deliver better performance. A set of 256 MB TwinX LL modules will set you back by Rs 9.8K, and the price tag increases as the latencies drop. I would suggest you go for the regular TwinX memory module as they are more than enough for your requirements. ☐

Ask Away

Want a tech product, but don't know how to go about buying it? Send an e-mail to agent001@thinkdigit.com to get your queries answered

Techdepot.com

Heaven is relative, but if you are a geek, chances are, this is what it would be like for you...

Aditya Kuber

Geeks are always on the lookout for a deal, and, spend a lot of time and effort looking for one. Sad thing is, they don't often get one. Techdepot.com is an answer to their prayers.

However, before you head straight for the Internet, let me tell you - this site is currently delivering only in the United States. So, it's time to beg those uncles and aunts who are on their way from the US, and plead them to get you your dream gadget(s). But if you don't have a friend/relative abroad, still this is a site you must simply visit to keep track of all the great deals and offers.

Build Your PC

It's simple. You have a budget and you have a requirement. Putting the two together is as good as having a sunrise at midnight. Techdepot.com does just that for you. First of all, decide whether you want the PC for home or office use, and select if you want a desktop or a notebook. Now you're one a roll!

Select components that fit your price range and needs, a code is generated for your order. The logic behind this selection is that you can come back at a later date and re-order the exact same configuration.

Here's a sampler of what's possible: Choose your hard drive, your motherboard, even your cabinet and fan make! Then get to the



Can you ask for more? Techdepot.com's homepage

memory and choose how much RAM you want, the hard drive capacity and finally, the ports and all. Then for the accessories, choose the keyboard, mouse and your monitor. And if you happen to be buying at the time of a special promotion, you could customise the colours of your computer as well. Now, how about that dazzling red...?

More Than Just Computers

Did you think that computers were all that was being retailed on Techdepot.com? You're in for a surprise here! They've got digital cameras, cell phones, scanners, LCD monitors, accessories... the works. What's even better is that there's a deal on everything they sell!

If you are on a really tight budget then 'Clearance Counter' is the page to bookmark. From time to time, products that are either limited in supply or 'open-box specials', are listed here. Be sure to visit regularly as these are fast moving items.

Some deals are as good as \$1,599 (Rs 70,000 approx) for a Toshiba Portege Tablet PC. And no, this is not the one with just the bare minimum, it has all the frills that will catch the fancy of all geeks.

There are also other refurbished products available and again, at a bargain. While the range might not be as varied as with the new products, budget shoppers should find this option handy. But you will need to really look hard for a deal. I found one!

The site also offers tech support and all vendors offer their products with warranty, with all the bells and whistles you would otherwise expect to have.

Look Around

The site, although nicely laid out, is a bit cluttered. Initially, it takes some time getting used to the layout, which sometimes can be frustrating. This is one of those sites where you would like to get going from the word go, but cannot, since it appears cluttered and little confusing at the outset. But with time, and a bit of pursuance, you'll get used to it. Don't worry, it's worth the effort!

There are almost 20 links on just the top navigation bar and simply going through all the 20 links to get to know the site can take a while. If, however, you are clear about what you are looking for, chances are you will find it with just one click.

The colours on the site are rather muted and this gives it a sombre appearance. Nevertheless, it also has a soothing effect. You are shopping, remember?

For Budding Geeks

Wait! There's more. If you are a student (or work for the government in the US for that matter), there is a different microsite for you that has special student discounts, free pre-sales tech support, and, even flexible payment options. Love it?

Yes, there are some more sites that offer similar functions but what we really liked about this site was that it lets you construct your own PC, buy refurbished PCs & products, and they also have a clearance sale. All this, in addition to the shiny new stuff they have in plenty!

The only real negative with this site, as mentioned, is the fact that you cannot order anything sitting here in India. But hey, a little daydreaming and browsing never hurt anyone, right? Surf away! ■

aditya_kuber@thinkdigit.com



'Build Your PC' at Techdepot.com



Sachin Kalbag

Wake Up! The Future Is Local

It is a paradox of our times that, on the World Wide Web, we can find long-lost school friends whom you haven't met in 15 years, but cannot find the telephone number of the local 24-hour pharmacy. More often than not, we find an obscure spy document of World War II, but try finding details on your local municipal representative, and you will appreciate the trouble with information on the Internet. Quite unlike the 24-hour local telephone information services that are pretty prompt with information.

Google and Yahoo! launched local search sites some time back; MSN launched its local search engine in June. Good going. The bad news, not surprisingly, is that most of the local engines are America-centric. Yet, it is a precursor to the future—the tool that everybody wants; and everybody has been waiting for.

“Google and Yahoo! launched local search sites some time back; MSN launched its local search engine in June. Good going. The bad news, not surprisingly, is that most of the local engines are America-centric”

We simply have to have a local equivalent of Google on the Web. For India, for our city, for our suburb, for our neighbourhood.

It is, therefore, another startling paradox that, in the age of information overload, we find local information is at a premium in our country. One of the easiest ways to access local information today is the local self-government body—the municipal corporations and its local offices. However, give or take a few, most municipal corporations and their officers are technophobes. You cannot expect them to create online databases that you and I can access when they are scared of the PC. Or so is the excuse that is meted out.

My theory is this: government officials are not scared of technology; they are scared of giving out information. Information is power; their only constituency, so to speak. This power gives rise to corruption. Hence, there is no logical (even if immoral) reason why they should give out information that can, theoretically, be “sold”.

One of the most interesting (and information-laden) aspects of local search is maps. Almost every US and European city is digitally mapped, and with aerial imagery now available on the Web (think

keyhole.com or TerraServer), it is almost tragic that India's satellite imaging prowess is not put to good use for that precious human connect with technology.

Truth be told, none of the three—MSN, Yahoo!, or Google—can add any value to our local knowledge if the information itself is not there in the first place. Ask the municipal corporation of Mumbai, the city where I live, about maps of Mumbai, and you will come up with a blank. Yet, the guys at Eicher Good Earth, a private firm, have published an entire book of Mumbai's maps, including valuable information on local shopping complexes, ATMs, apartments, hospitals, 24-hour pharmacies, and you understand why digitising a city's information requires intent and will, more than money. So, if Eicher can, why can't the municipality, especially since it is a treasurehouse of information?

All the three search giants throw up results indexed from local businesses and services. Nowhere have they invested their own resources to create information. The only money that has gone into these search services is for developing the programs that power them, and investing in the people who are doing it. It is a simple model. Try searching “Pizza Hut” in “Evanston” (Illinois, USA) on any of the three services, and you will not only get detailed addresses along with phone numbers, you also get maps, aerial imagery, and other options you could try out just in case. MSN's beta version of the local search also throws up Web results for good measure.

Not that maps and aerial imagery are anything new (MapQuest provided PDF versions of aerial imagery more than two years ago), but it was only in the last six months, post Google's acquisition of Keyhole.com, and the subsequent use of its aerial images by CNN, that the service came into prominence. Google, it would seem, did the right thing at the right time. So did MSN. So did Yahoo!.

Their success with local search is evidence enough that people care more about their neighbourhood than what it is happening in Poland or Sierra Leone. Or for that matter, whether US army personnel are hurling abuses at the inmates in Guantanamo Bay. If I want to know which restaurants in my suburb are open at three in the morning, someone better give me that information.

The call, therefore, goes around the Web: Wake up! The future is local. ☒

Sachin Kalbag, former Executive Editor of Digit, is now a Deputy Editor at Daily News and Analysis (DNA), Mumbai

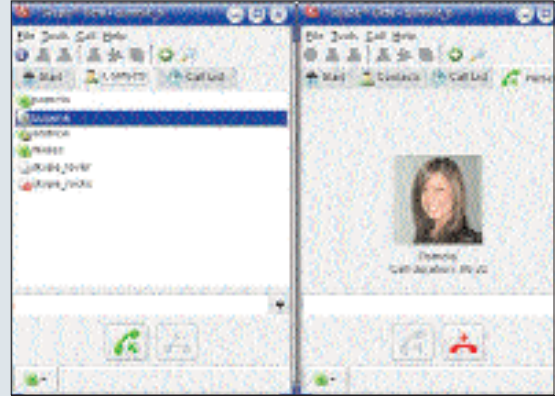
Calling Elvis!

Not really Elvis, but someone in Elvis' land, anyway! I do have a few relatives and friends living abroad and last month, a couple of them celebrated their birthday last month. Over the years, I have been wishing them over e-mail, but this year, I thought why not call them using VoIP? The dilemma? Is VoIP better than the good old phone?

Aditya Kuber (aditya_kuber@thinkdigit.com)



Good old telephone...



...And this is what the computer has done to it

1

Options galore! Should I use the landline or my cell phone? I have a post-paid cell phone and need to subscribe to international calling. Since my landline doesn't have ISD (International Subscriber Dialling), I will have to either buy a calling card or go to the corner shop to make the call. I choose the calling card worth Rs 100; gives me more control!

Time taken **15 min**

At home, I use my CDMA cell phone to connect to the Internet. The connection for using VoIP needs to be stable, but this will have to do for now. First, install a P2P software like Skype that helps you connect to another computer to talk. You will find it on the Digit DVD; installation takes around 15 minutes.

Time taken **15 min**

2

Once I have purchased the calling card, all I need to do is punch in the code behind the card and dial the destination number. Easy as pie.

Time taken **10 minutes**

Once installed, I need to configure it and ensure that the person I wish to call has the same software (it's a P2P, remember?). Thankfully, my cousin has it and I make the connection.

Time taken **10 minutes**

3

The voice quality is all right, but the time lag is irritating. No choice, though... the calling card lasts me for about 8 minutes; just about enough to have a decent conversation.

Time taken **10 minutes**

My cousin has been expecting my 'call' and is on standby when I connect. We can talk for as long as we want and the connection is not too bad either. There is a slight lag though... and I would have done better with one of the new PC phone devices. We have a good 15 minute conversation.

Time taken **15 minutes**

4

I had to go to the corner store and buy a calling card and eventually, it lasted me only eight minutes. Voice quality and lag were also a let down. Not too impressed, but this was simpler.

Total Time Taken: **35 minutes**
Total Cost: **Rs 100**



Total Time Taken: **40 minutes**
Total Cost: **Rs 0**



Moneywise, the tech way is better. However, in terms of speed, the old way is better. But the tech way wins only because of the sheer convenience it offers. With this form of communication constantly

improving, I guess I would stick to this. I'm paying for the Internet connection anyway... why pay again for making calls if I can combine the two?



Illustration Binesh Sreedharan

News You Can Use

News is the in thing these days. It's therefore natural that news aggregators are a talking point

Mithun Kidambi

Anthing to do with computers and information technology and you'd have multiple formats and their multiple abbreviations. And don't blame the press for this state of affairs. It's the geek ego at play. So we have Really Simple Syndication and Rich Site Summary. We have RSS feeds and Atom Feeds. We have feed burners and then we have feed readers...

Now, if all this is end-user technology, why must an average computer user struggle with all this? What is a news aggregator? How does it function better than just going to the site directly and accessing all your information? Well, as you would have guessed, the questions are no-brainers, and as we proceed through the

article, you'll see how much easier and how much more convenient it is to have your own feed reader. Moreover, throughout the article, to maintain a level of uniformity and easy recall, all formats of feeds—whether RSS or Atom—would be referred to as RSS feeds or simply, feeds. Nothing personal against the Atom format, but RSS is a better-known acronym to remember.

Looking Before Leaping

Before we get headlong into the coded world of XML and RSS, we need to tackle a few points that people regularly miss out on—areas such as syndication, uses of a feed, and how setting up a feed increases the number of hits to your site. We have already discussed how to set up your own RSS feed (Tips & Tricks, *Digit*, June 2005).

The term that actually drives people up the wall, however, is 'Syndication'. Web Syndication is often confused with copyright. Though in some cases, syndication does involve procuring a license from the originator of the story, in many cases these days, syndication on the Web merely means making feeds available from a site so other people can display an updating list of content from it. This originated with news and blog sites, but is increasingly used to syndicate any information.

So how does this update happen? And how does it benefit the end-user? For someone to subscribe to an RSS feed, a few conditions are a must:

First and foremost, the publisher of the content must make the content available in the RSS format. Secondly, the person subscribing to a feed must have a feed reader or 'News Aggregator'. This gets us to the whole point of this article. What in the name of Brin and Page is a news aggregator?

The Boss

Simply put, a really smooth set of code that fits snugly into your Internet browser or desktop is an aggregator. But what exactly does this software do?

In a nutshell, a News Aggregator periodically downloads the latest headlines from your chosen news sources and displays them in one convenient place. It enables you to glance at the latest headlines and gives you the ability to read the full story behind those headlines that interest you. You don't have to go scouring around the Internet nor does your bookmarks list have to flow into hundreds to get the news that interests you!

News feed readers come as individual software that can be downloaded off the Internet. You also have RSS readers that can be added as extensions to your browser (Only Firefox and Opera as yet) or sites such as Bloglines (registration required) that let you check all your feeds from any Web browser.

So no more unwanted tabs open on your Firefox or Opera, no more waiting for the advertisements to load for just a quick glance through the headlines. What aggregators (and RSS and Atom as a whole) have done is given you the choice to read only the news you want to read. You get to run a quick check on the headlines and pick only the ones that really interest you. What you can also do, is choose the sites or blogs you want to subscribe to. This is truly having your cake and eating it too!

Best Practice Guidelines For AdSense

Syndicate the full text of your articles

The more content that is available in a site's feed, the better the user experience, and the more likely people are to subscribe your feed. If you can't put the full text of your articles in your feed, then in addition to the headline of each article, include as informative a snippet as possible of the article's text.

Don't include more than one ad unit per article

Feeds represent an uncluttered, highly targeted medium, and these characteristics should be preserved to maintain and grow an audience. The AdSense for feeds ad format has been designed to be very streamlined to ensure that users are not overwhelmed with advertising.

Place the ad unit at the end of articles

The content of an article is what users are most interested in, and that should be placed first. Then they can read the ad with more context.

Include terms and conditions on the use of your feeds

Just as you have rights associated with the original content you create on your Web site, you also have rights associated with your feed content. If you have concerns about those rights, specify the exact terms and conditions for the use of your feeds somewhere on your site.

Source: <http://snipurl.com/digitenhance>



104 Money At The Gates



108 Blogvertising, Anyone?



110 IT-enable Your Sales Force

Digital Business

How Technology Can Help Your Organisation

Case Study

Broad-basing Management

A management institute, a telecom major and a high-speed connection is enough to learn management—no matter where you are in India

Mithun Kidambi

Nilesh Nayar recently joined a leading software company in Mumbai as an associate consultant. Fresh out of an engineering college with a degree in computer engineering, Nilesh feels a degree in management will help him scale the corporate ladder faster. So why didn't he go in for a post-graduate course in management right after his graduation?

His answer: "Getting a good job right after college is getting pretty tough these days; also, wouldn't work experience help if you want to pursue a management degree later?"

This line of reasoning can be heard from an increasing number of young professionals across the country. India has always had students enrol for management courses right after graduation. This is quite contrary to the trend observed in the West. With work experience being a prime criterion for admission, the average age for students in the first year of management schools, including the likes of Harvard Business School and INSEAD, is around 27 years. We,

however, learn to live life on the fast track right from our kindergarten days. It is therefore natural that most freshers at B-schools around the country are fresh graduates.

But there is also a bunch of people who would like to keep their jobs and get additional qualifications, all in a bid to keep up in the corporate rat-race. The part-time courses (after-hours lessons) offered by almost all management institutes across the country cater to this demand.

Lectures and presentations after work hours do get tiring, but then, there is the next big promotion dangling in front of your eyes! These courses have a few shortcomings, though. The timings may not be suitable to all, and working executives at times have to travel—in the process missing a few lectures. These courses are also restricted to working executives from a particular location. So what could be done to bring in a larger pool of students and make the courses available to many more students, transcending geographical boundaries? This is the 21st century, and there is a very simple credo here: when faced with a problem, think Technology.

Illustration Praxip Ingate



The Genesis

Technology might not solve all your problems, but it has a soft spot for education and postgraduate students in particular! “Xavier Institute of Management, Bhubaneswar (XIMB) has always looked forward to expanding the domain of management education and reaching out to the world in order to deliver quality education to students without the limitations of place or travel,” says Dr W S William, Dean-Academics, XIMB. In keeping with this line of thought, XIMB wanted to offer a postgraduate programme using a virtual classroom platform.

In their bid to leverage the potential of satellite education and its utility as a virtual classroom platform, XIMB ran into a few technical roadblocks. What they needed was a technology partner who could provide the necessary—and really humungous—infrastructure. At around the same time, Reliance Webworld was looking to make more use of their existing Webworld centres, all of which were equipped with a videoconferencing facility and high-speed data transfer capability. “We had an existing relationship of sorts with XIMB,” says Sarup Chowdhary, CEO, Reliance Webworld. “When they proposed this venture, we were only too glad to be able to render our services.”

All Cut And Laid Out

Born out of an alliance of opportunity and necessity was the PGCBM, or Post Graduate Certificate Programme in Business Management, based on the virtual classroom format.

Aimed primarily at working executives, the weekly classes would be held only after office hours. Each of the Reliance Webstores has a Video Conferencing (VC) room, which accommodates up to 12 students. Thus, the students of the PGCBM programme would be seated in a Reliance Webworld, interconnected seamlessly with other centres through a VC bridge, which is stationed at the DAKC (Dhirubhai Ambani Knowledge City) in Mumbai.

With over 200 Webworlds spread around the country, accessibility to the course would definitely not be a problem. Also, the high data transfer speeds—a dedicated 768 kbps line to enable video communication in real-time—have ensured that a virtual classroom would actually feel like a classroom.

Technology has also made sure that absenteeism from class would not be punished! If a student is unable to attend a lecture, the session would be played back to the students at the designated Webstores, which is possible because lectures and the classroom proceedings would be recorded. Now, if only my college had thought of my well-being and recorded all those ‘fun-filled’ lectures I missed...

So what are the dynamics of the course, you ask? Use of technology is fine, but what is more important is the credibility of the course, and this would be best ascertained by taking a look at the curriculum. Dr William says that the course would be as robust as any management course around. “The quality of the curriculum is very high, specifically designed by our



“This programme leverages the latest technology, is location neutral, adds immense value to the working executives and has a high quality curriculum design.”

Prof W S William
Dean (Academics),
XIMB

faculty. The curriculum provides enough flexibility to the faculty to maintain equilibrium between theoretical understanding and practical applications,” he adds.

With a batch of a maximum of 150 students, the institute is making sure they do not overpopulate a class. They, however, have plans to increase the number of batches with every academic year. The one-year course has 240 hours of online classes and 60 hours of on-campus contact sessions at XIMB’s Bhubaneswar campus.

At Rs 1,50,000 for individual students, the course may be a little expensive, but then, this is application of video conferencing and broadband technology with all its bells and whistles.

The Class Act

How does this course really function then? How different is it from trooping into a classroom? After the rigorous selection process, as is the norm for any management course, successful candidates will opt for their choice of Webworld centres. This, of course, is subject to the availability of a minimum number of applications for that centre. In short, a quorum is required!

The classroom functions as a regular one; however, instead of a lecture podium, the professor peers down at you from a video camera. The high speeds and plasma televisions would mean that you will get impeccable picture and audio, and that too, in real-time.

This will also enable a student to interact with the lecturer or fellow students. The lecturer would get multiple images on his plasma screen thanks to PiP (Picture-in-Picture) technology, which would make it easy for him to address individual questions and also ask for opinions from a particular student.

Broadband internet access also means that students would be able to look up or research a topic in real-time when a lecture or Q&A session is in progress. This will also enable presentations online.

Looking Forward

Commencing July this year, the one-year course aims to redefine the way management education for working professionals is conducted across the country.

In addition to the PGCBM, XIM has a Post Graduate Certificate Course in Rural Management (PGCRM) in the pipeline. Along with that, there are a large number of Management Development Programmes (MDP), which the institute plans to offer to various corporate, government and non-government institutions.

If extended beyond postgraduate education, affordable broadband technology might just prove to be the panacea for our ailing rural education programmes and undertakings. It could also reach out to all those children who cannot take the time out to attend day schools. Backward Integration just got a new meaning. ■

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Joseph Sullivan

Security In An Online Marketplace

For at least a decade, individuals around the world have questioned opportunities offered by Internet to help foster commercial development. Based on our successful experience of millions, the answer to these questions is a resounding "Yes." With over 150 million registered users from more than 150 different countries (over a million users in India), eBay has enabled individuals and small businesses to offer their wares to e-commerce shoppers everywhere.

Online marketplaces allow craftspeople in small villages in remote corners of India to market their unique handcrafted goods over the Internet to Europeans and Americans seeking a taste of Indian culture. City dwellers in Mumbai can purchase jewellery, electronics, and even automobiles, at prices lower than what they would pay in other markets.

Are people actually willing to trust someone they have never met, is located somewhere far away, perhaps even on the other side of the globe? Could a business based on trust between remote buyers and sellers actually work? Evidently, yes!

Even so, many consider the world of electronic commerce to still be in its infancy, particularly when looking at the vast potential for growth of Internet access and its use around the world. In the same regard, the recipe for success related to secure electronic commerce in the ever-evolving Internet is still a work in progress, as businesses around the world explore new e-commerce models on an almost daily basis and fickle consumers vote on the success of these websites with their pocketbooks.

Studies show that the primary security related reasons for consumers not participating in electronic commerce include:

- ☐ Not receiving items purchased or receiving items that are substantially different than described (and having no recourse)
- ☐ Having their personal information sold to third parties
- ☐ Having their personal information stolen
- ☐ E-mail scams known as "phishing" or "spoofing" that result in messages being sent from disreputable sources but disguised as messages from trusted sources

To understand a bit about the success of electronic commerce, it may be helpful to ask: what is the key to success of eBay? How does eBay help people overcome the

perceived anonymity of the Internet to build enough confidence that buyers are willing to send money to sellers they have never met? From the perspective of an insider, the answer can be summed up in one word: Trust.

The first ingredient in a trusted marketplace is a community of users who act with integrity. In this regard, we have discovered and capitalised on something that we all know intuitively but that rarely gets reported in our morning newspapers or evening news programs—people are basically good! Just as 99.9 per cent of the people we choose to interact with in our daily lives are conscientious and moral; the overwhelming majority of users bring the best intentions to their e-commerce transactions on eBay.

Layering this trust with a world class security team of close to 1,000 people, we use statistical risk analytics to identify and remove suspicious users and inappropriate items. As credit card companies set a ceiling on spending based on user characteristics and flag suspicious transactions by location and price, eBay's security team can act behind the scenes to keep an eye out for everyone.

Add a little flavour with a philosophy of working closely with law enforcement. eBay takes the view that law enforcement agencies should be able to walk their beat on eBay the same way they patrol an offline shopping mall or a street corner. eBay has more than a dozen former law enforcement officials on staff and maintains strong partnerships with law enforcement from many countries to ensure that those responsible for misconduct are prosecuted to the fullest extent possible.

This is another example of converging real world concepts successfully with the virtual world. Doing this unobtrusively is just as important to maintain the sanctity of the online marketplace.

Topping this off is a financial protection program to reimburse users who do face a true problem. For example, one can provide free buyer protection for losses occurred at the buyer's end.

With this recipe, online marketplaces in the converged world can become a reflection of the people who use its platform. The success of eBay helps confirm our belief that people are basically good and willing to trade fairly and honestly with others.

It has also gone a long way in reinforcing the belief that converging the real and virtual worlds is possible. ■

The author, Joseph Sullivan, is Senior Director of Trust and Safety at eBay Inc. He recently spent three weeks in India



Imaging Binesh Sreedharan

Money At The Gates

Have you ignored the prospect of sales on the Internet? Boost company profits—start selling online

Robert Sovereign-Smith

It's true that not all products are suitable for sale online. Not many online buyers would think, "Ahh, I'd like a ton of steel to build my own boat, and a couple of barrels of crude oil in case I run out of charcoal for the barbecue." However, if you are a medium-sized company offering products, and not services, you should already have an online retail outlet. If Fabmall.com can deliver groceries in Bangalore, there's no reason for any company to think twice about selling online.

As usual, basic questions abound: "Do people really buy online?", "We can't afford an online merchant ID, can we?", "Are my products too expensive/cheap to be sold online?", the list goes on... So let's take a look at why you should sell online before we get into telling you how to set up payment gateways.

Credit Cards And Impulse Buyers

Credit cards are such a novel invention. When used right, they can save you in times of cash crunches—while on the other hand, can be the cause for a cash crunch. As a business, credit cards are always your friends. The great fear of buying online with credit cards is reducing. More and more people are spending money they don't have, to buy things they don't really need—and most of it is online. As a business, if your products offer any sort of flaunt value, or have caused customers to impulse-buy, and you're not online yet, you're missing out on a lot of business.

Reputation And Appearance

It may sound shallow, but people are so used to seeing sites with shopping carts, coming across your site that does sell products, but not online, might make your company seem small. Whether this is true or not isn't really important; the fact is, you're not IBM or Microsoft, and you're not selling steel or crude oil. You

don't have a million distributors either, so where's the online product catalogue and shopping cart?

Product Pricing

Yes, it's pointless to set up an online shop if your products cost a lakh a piece. Considering that the average credit card holder's credit limit is between Rs 30,000 and Rs 40,000, any products that cost in excess of Rs 20,000 might not be so hot online. If your products are FMCGs, and cost anywhere from a few hundred rupees to a few thousand, you should definitely consider an online shop.

Shipping

Don't make the mistake of thinking that since you only service a single city, an online shop wouldn't help. You will need to mention clearly that delivery is only within your city, and not let it deter you from setting up your e-shop. You could always put up a "Dealers Wanted" sign on your site and try and expand into more cities eventually.

The Checklist

Before you go about getting a Payment Gateway, you need to identify your needs. If you have a variety of products, you will need to set up a product catalogue and a shopping cart service.

In this issue, we have shown you how to set up a PHP Web site (page 62). If you are setting up a Web site using that advice, you will find that adding a shopping cart is quite simple—all you need to do is find a shopping cart module for PHP-Nuke that fits your needs, and add it to your Web site.

Don't make the mistake of thinking that since you only service a single city, an online shop wouldn't help



The first thing you need to do is register at CCAvenue.com

The Payment Gateway

The payment gateway is sort of like a broker for all deals between you and your customers. It will authenticate your customer's credit or debit card and then bill it for the specified amount. This money is then deposited into your account on a weekly or monthly basis.

The important thing to keep in mind is that you will need to bill your customers in the local currency, as you don't want customers not buying your products just because the price is mentioned in dollars. Though there are many companies offering payment gateway services, we will just take one example for the purpose of this article.

CCAvenue.com

CC Avenue is a trusted Indian payment gateway, and boasts of clients such as C-DAC, TATA, the Ministry of Commerce and Industry, Mahindra and Mahindra, LG Electronics India, Reliance's Paradox Studios, and yes, even Digit. The fact that we use it should suffice as an explanation as to why we recommend it.

CCAvenue has two basic options for a payment gateway solution:

The Premium Scheme: This involves a one-time setup charge of Rs 25,000, and a software maintenance cost of Rs 2,400 per annum. They levy a charge of five per cent per transaction under this scheme, so for every Rs 1,000 that you sell online, Rs 50 goes to CCAvenue. You will have to price your products accordingly and cover this deficit of five per cent.



The main CCAvenue control panel screen

The Economy Scheme: For smaller businesses just starting up an online shop, this is perhaps the wiser option. There is the Rs 7,500 one-time setup fee, and a software maintenance charge of Rs 1,200 per annum. In this scheme, the per transaction charge is seven per cent.

You can always upgrade to the premium scheme later, by paying the difference in the setup fees. Also, you can do that only if you receive an overwhelming response to your online shop and end up paying a little too much to CCAvenue at the extra two per cent per transaction!

Setting It Up

In order to set up your payment gateway, all you need to do is log on to www.ccavenue.com and click on the 'Sign Up' link. Fill in all the details correctly, and you will be asked to pay for your gateway plan. You can pay by credit card, Net Banking, demand draft, or even by cheque.

Once you've paid, you will need to download a copy of the CCAvenue Client Agreement, downloadable from http://snipurl.com/digit_cca1, or

You can always upgrade to the premium scheme later, by paying the difference in the setup fees



View details of all transactions over the past months



From the CCAvenue control panel you can get quick statistics for the past week, month, or year as well

viewable at http://snipurl.com/digit_cca2. You will need to print this on a Rs 100 stamp paper, and have it filled in, signed and stamped by an authorised signatory for your company, and then snail-mailed to CCAvenue.

Once you have been approved, your account will go online and you will receive instructions on how to go about integrating your site with CCAvenue in order to offer your visitors the ability to purchase merchandise.

Using your Account

CCAvenue charges your clients for you, and then puts each order into an accounting module in your account with CCAvenue. You have to log in frequently to your CCAvenue account and update the status of each order to 'Shipped' or 'Executed'. Only then is the payment delivered to your account. Failure to update the status of a pending transaction for 12 days results in the money being credited back to the customer, and you lose a perfectly good order.

Apart from the little coding required to integrate the module that CCAvenue provides you with, everything else should be a breeze. Even the module integration should be easy for any competent Webmaster or systems administrator. CCAvenue will provide you with modules based on ASP, PHP, JAVA and .NET, so 99 per cent of Web sites should have no problems with the integration.

The setup procedure is pretty much the same for any payment gateway provider that you choose, and the control panels will be similar. Within a matter of three or four days after applying for a payment gateway, you should be able to begin integrating your site with it. Do write in to us and let us know if this article helped your company's business grow. ■

robert_smith@thinkdigit.com

Choosing The Right Payment Options

Choosing the right payment options can mean as much as 50 per cent more online business for you. Using your payment gateway, you can also choose to add Net Banking and debit cards as options for payment. You should also design your shopping cart in such a way that the Cheque, Demand Drafts and Cash On Delivery payment options are also included, which should then point to another page within your Web site itself. Be sure to mention all important details, such as the name the cheque should be made out to, in crisp bold lettering—one spelling mistake could cause a lot of unnecessary headaches.

Also make sure you have trustworthy resources and manpower to execute the Cash on Delivery payment option, else it would be wise to steer clear of offering it.



Sandeep Patil

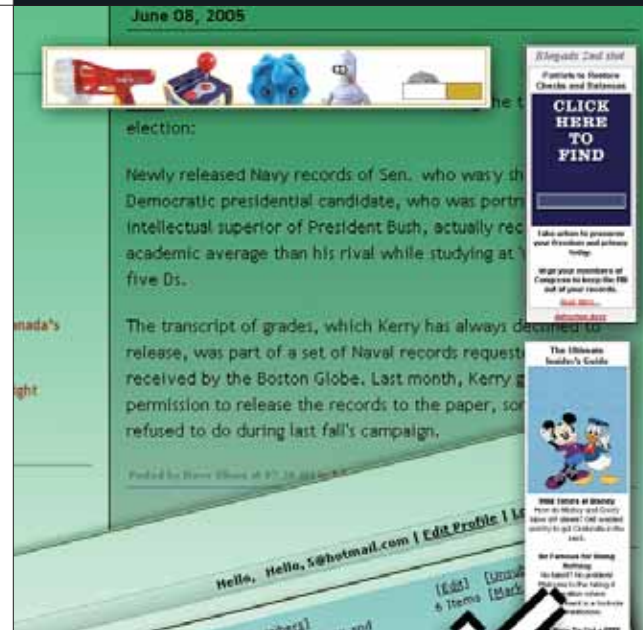
C V S Sharma
GM and Country Head,
Tribal DDB India

We have advertised on blogs to some extent. For instance, advertising campaigns for MSN and Reliance Mutual Fund were extended to blogs. We don't contact the blog publishers directly, and most of the ads are done through Google AdSense.

Indian blogs are still at the evolutionary stage. Abroad, blogs have almost 50 million hits per month, whereas in India the figure is just around 3,000 to 4,000 hits per month.

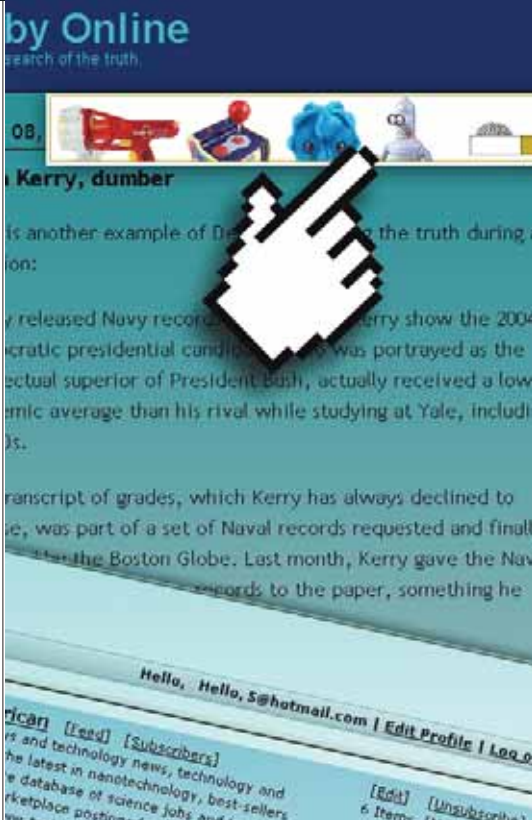
Although the current revenue from advertising on blogs is negligible, this segment can't be ignored. The focus on blogs is entirely content-oriented. Blogs are also a good example of two-way communication.

The viewer response to advertising on blogs would be higher than the traditional medium. In blogs, the ads will be looked at by serious surfers. As bloggers are increasing in number, India is slowly and surely catching up! In the future, newspapers may source content from blogs only because of the quality.



BLOGVERTISING,

With blogs becoming a rage, can they be the next hot-spot for advertisements?
Digit speaks to some people in the know



Imaging Atul Deshmukh



Sunil Miranda
Vice-president,
Mediaturf

Advertising on blogs hasn't taken off in India the way it has in the West. Indian advertisers are very reluctant to put their money into blogs right now. Also, if you were to compare the number of page views of an Indian blog to a US blog, it is much lower.

I would say the main reason blogs are not that popular is due to a lack of awareness among the general public. If you were to compare, people in India took considerably longer to adapt to e-mails than did their European counterparts. Similarly, in due course of time, when the market matures, blogs in India will see more action.

Earnings from blogs form a very small part of the revenue today. However, I am sure this will change in the future. While blogs have the advantage of being able to connect to the right people, they also have the constraint of not being able to reach remote audiences. Here, the traditional medium still has an edge.



Sandeep Patil

Rajiv Gopinath
Media Director,
Madison Media

Blogging in India is still at its nascent stage. The amount of advertising happening online is also not high across Web sites. Rediff and Yahoo! are among the few major names in online advertising. Besides, how many serious Indian blogs do you know of? I, myself, am familiar with just eight or ten. And even these blogs have a diverse audience.

Bloggers are an intelligent lot who don't surf the Internet for information alone. It's possible that bloggers may find advertising to be some kind of intrusion on their space. So, we need to understand the pulse of the audience before we advertise.

Also, the kind of advertisements made for blogs will have to be very interesting; conventional ads may not appeal to the visitors or bloggers themselves. The ad should be of such a quality that it should be capable of turning the discussion on the blog to the advert itself. Now that's a real challenge! Ad networks in India also don't have a lot of blogs within the network, and therefore there is a problem in terms of the supply of contacts in this area.

I am sure the option of blogs holds a lot of promise, but I would personally be more interested in using blogs as an initial step in any ad campaign, and then continuing with the regular media that are currently in use.

ANYONE?



Anish Sood
Blogger
(www.anishsood.tk)

Advertising on blogs in India is not popular at all. I have yet to see private companies and multinationals approach bloggers individually. The only advertising that's popular is Google's AdSense—a unique programme that's caught the eye of the blogger.

I don't have any ads on my blog since I don't need any funds. I gave up the idea as I felt the ads would clutter the interface of my blog, which I wanted to keep slick and clean. However, the only option I had earlier was AdSense. If I receive an individual offer again, I will certainly consider it.

Blogging is newer than other forms of media, and yet has picked up very fast. When you have blogs with about three to five thousand readers per month, it makes sense to advertise. I feel advertising on blogs is the cheapest method of advertising to a specific audience. Pay bloggers even Rs 1,000 a month, and they will gratefully put up your ad.

It's a good medium for advertising companies to exploit, but sadly, they are yet to get hold of it. Advertising on blogs is extremely lucrative, as readers begin to trust a blogger.



Sandeep Patil

Rohit Gupta
Blogger (www.desimedia-bitch.blogspot.com)

India has 1.7 per cent Internet penetration, so potentially 18 million bloggers, but in reality there are a few thousand blogs so far. Advertising on blogs is still based on automatic services. However, the potential of blog readership is far more than most leading newspapers.

My blog has Google AdSense and Amazon referrals. The software selects what ads to display based on the blog content, for instance C*S*F (Chiens Sans Frontiers): <http://desimedia-bitch.blogspot.com>. We are giving away our AdSense earnings as cash for blogging. Being inexpensive, blogs are turning to be attractive for advertisers, and, you pay only if someone clicks on your ad, so your budget is never wasted on what eyeballs the blogger 'claims' to attract. Each and every cent spent is accounted for. Can a print or outdoor ad offer such an honest deal?

Blogs hold potential for future marketing, as product advertisers can communicate directly with customers, bypassing middlemen. Word-of-mouth and other direct media also come into play. A Google ad can come up anywhere on any blog, based on Google's automatic algorithm that selects the ads for bloggers who subscribe to its revenue programme. As time passes, the accuracy of this target-practice becomes more and more efficient.

As told to Preethi Chamikutty (preethi_chamikutty@thinkdigit.com)

Should You IT-enable Your Sales Force?

Mobiles, PDAs, laptops, the works—do selling agents need them or not?

“IT-enabling the sales team is essential to increase sales”

MobiApps is a provider of hybrid terrestrial and satellite technologies for commercial communications, which allows companies to remotely monitor and manage critical infrastructure assets such as fuel levels, water resources and other utilities in real-time. The distribution of MobiApps solutions across India is done by TACO MobiApps Telematics (TMT) Ltd, a joint venture between Tata AutoComp Systems (TACO) and MobiApps.

“As a provider of solutions that include fleet management, asset tracking, telematics, metering and security, ours is not a tangible product that can be taken along and displayed to buyers. To showcase our solutions, we need to provide the sales team with a mobile computing system through which customers can assess the features of the solutions.



Amitabh Satyam
Country Head,
MobiApps

“To showcase our solutions, we need to provide the sales team with a mobile computing system to enable customers assess our product features”

“Each and every person in the TMT sales team is equipped with a PDA phone. The sales force is also provided with laptops—again, an instance of using wireless technology—which helps them have continuous, uninterrupted access to data, and also enables synchronisation of the communication taking place, say, from the central location to any other part of the nation.

“Apart from being IT-enabled—such as being connected to a central files server—the sales team also responds to e-mail queries. Moreover, there is a Customer Relation Management (CRM) system in place, and a toll-free number for customers.

“I can safely say that we have employed a higher degree of wireless communications to showcase our offerings. On an average, we have invested nearly Rs 50,000 per head in order to achieve connectivity.

“Having this kind of access to live data is crucial to the sales force when interacting with potential customers. We think technology is a necessity to doing business in this day and age, and, it also increases the possibility of closing a sale.

“In our case, without this kind of live connectivity we would not have been able to close 30 to 50 per cent of the sales we have hitherto achieved. Equipping the sales force with technology is the need of the hour.”

“Majority of our sales force is not IT-equipped since it’s not needed”

Originally incorporated in 1984 under the name Bookwing Publications & Trading Company Ltd, the name was changed to Navneet Publications India Limited in 1991. A private sector player in the publishing industry, the company sells guides, workbooks and general books under the Navneet, Vikas and Gala brands.

“I personally look after the sales for 16 states in India (excluding Maharashtra) with a team of 138 sales personnel. All our sales executives need to popularise our products, regardless of which rung of the management ladder they are at.

“At present, only six members in the sales team who are involved in the direct promotion of our educational

“A mere presentation using a laptop will not do justice to the books we offer. Buyers need to see the actual book before they can purchase it”



Pradeep Jadhav
Senior Area Sales Manager,
Navneet Publications

CD-ROMs have been given laptops. Apart from that, 22 junior managers have been provided with mobile phones.

“One obviously cannot market books over the phone—so tele-sales is a no-no. Nor can we simply distribute brochures to buyers. A mere presentation using a laptop will not do justice to the books we offer. The customers need to see the actual book, academic or otherwise, before they can purchase it.

“Our sales force visits educational institutes and coaching classes in these states. Essentially, our sales force does a physical sampling—we provide a sample copy of a digest or guide to teachers, who first read the copy, and then recommend its features to their students. Based on that response, we launch the particular product in the market.

“It is only when marketing our electronic products, such as our CD-ROMs, that we need to make a presentation using a laptop.

“We do not equip the majority of our sales force with mobile phones or laptops, not because it would be a financial overhead, but because equipping them with those hi-tech gadgets is not really required.

“Moreover, considering the kind of products we deal in, I doubt if a requirement to equip the entire sales force with hi-tech gadgets would arise in the near future.”

As told to Renuka Rane (renuka_rane@thinkdigit.com)



115 How VoIP Is Shaping Up



117 A Paradigm Shift



132 Britney Tops Virus Charts

Digital Leisure

Technology Beyond Work

Touched By Tech

A Think-Tank For Students

Oracle's Think.com is a pedagogical treat for students and teachers alike

Renuka Rane

“**N**ever before has teaching science been so joyful and innovative, with students showing so much enthusiasm for learning,” exclaims Kamal Peter, who has been teaching science at the Kendriya Vidyalaya Malleswaram (KVM) in Bangalore for almost 20 years. Peter is referring to using Oracle's Think.com programme, a globally hosted online educational environment designed for primary (ages 7 to 12) and secondary (ages 13 to 16) school students and teachers.

Think.com makes use of personal Web pages as well as

powerful communication and collaboration tools—and it's all free of cost.

A New Paradigm In Education

A member of the Educational Technology Focus Group for the National Curriculum Framework 2005, Peter claims to be highly involved in all sources that make learning more interesting and enjoyable for students.

She says, “I feel Think.com falls under the paradigm of ‘A3—anytime, anywhere and anyone’ information. Thanks to the training by Oracle, we teachers are no longer techno-phobic, and can now demystify technology for children.”

The visually-rich Think.com breaks the monotony of regular chalk-and-blackboard teaching by providing a highly interactive interface. According to Peter, “A bit of adapting is all that is needed to get meaningful interaction from your students.”

Ease Of Learning

Think.com is a part of Oracle's Education Initiatives programme. Launched in 1999 in the UK, Think.com now serves more than 1,50,000 students and teachers around the globe.

Members have their own personal Web space within a protected online community, where they can exchange e-mail, create Web pages, upload images,



and host collaborative learning activities with other members.

An added benefit is that HTML is not needed at all for the Web site to function. Powered by the Oracle Database and Oracle Collaboration Suite, it allows users to easily add text, audio and video to their personal pages, and interact with other members.

Accessible from a standard Web browser, members can stay connected to their classrooms from home, school or the library.

Think.com In India

The Kendriya Vidyalaya Sangathan (KVS) will roll out the Think.com initiative to over 900 Kendriya Vidyalaya schools in India in a phased manner.

Krishan Dhawan, Managing Director, Oracle India, says, "Oracle Education Initiatives are Oracle's philanthropic efforts to catalyse learning at all levels of education by leveraging the company's core competencies in information management and Internet technologies. By investing in the education of today's students and partnering with governments and academic bodies, Oracle is helping students counter the challenges of the information age."

A precursor to the rollout is the successful Think.com pilot projects conducted in two government schools and 25 Kendriya Vidyalaya schools in Delhi and Bangalore in 2004.

Dhawan adds: "The task of rolling out Think.com to all the 900 KVS schools is already underway. By the end of 2006, Think.com is expected to touch over 50,000 people."

As part of the rollout, Oracle is training a core group of about 40



“Oracle is helping students meet the challenges of the information age.”

Krishan Dhawan
Managing Director,
Oracle India Pvt Ltd

master trainers selected by KVS. The master trainers will, in turn, train school administrators in the KVS schools. The teachers trained by the master trainers will implement, train and support other teachers and students in their respective schools.

The aforementioned Kendriya Vidyalaya Malleswaram was one of the 25 schools to successfully pilot the Think.com project. Students at KVM continue to use Think.com in their day-to-day learning in both curricular and extra-curricular areas.

"Oracle's collaborative learning environment provides the opportunities for our school to be part of an increasingly highly-connected world. Kendriya Vidyalayas can now communicate and collaborate with the global student and teaching community," said R Jamuda, Commissioner, KVS.

A Global Learning Community

Essentially, Think.com uses the Internet to create a protected online environment where unfavourable elements not suited for young children are eliminated or not given access.

Through Think.com, primary and secondary school students and teachers from around the globe can communicate, collaborate on projects, share ideas, exchange information and enliven classroom-learning experiences through real-world discussions.

Think.com provides a tool set to easily create custom lessons that simultaneously engage students in technology, subject area curriculum, and the power of a global learning community.

Think.com provides global online interaction, and thereby, greater avenues for partnering with teachers and students worldwide. Akin to a Web-based student community, each student has an e-mail account and personal Web pages.

Students can post messages, assignments, and even audio and video clippings. They can exchange information not only with the other member schools spread across the world.

Instant Interaction

Peter also co-ordinates with Janet Damon, librarian of the Oakland Elementary School in Colorado,

in the USA. Damon is involved in a project on Indian culture, information on which she is getting from Peter and her students in Malleswaram.

"I have been interested in Think.com since I saw the programme demonstrated at the International Society for Technology in Education conference in the US last year. The project I am working on is a lesson in Indian culture and society for my students in Denver, Colorado.

"I teach in a very diverse neighbourhood; my students live in an urban community and some do not travel very much to other countries.

"Through Think.com I taught a unit to my students about the culture, geography, and customs of India. Ms Peter was a wonderful resource and partner; she has been enthusiastic about providing information on learning about Indian weather such as the monsoon when I taught that portion," says Damon.

She adds: "I asked my students to write letters introducing themselves to Indian students asking questions about this incredible country. I am travelling to India in July, and these letters are travelling with me to schools from Goa to Bangalore to Pondicherry.

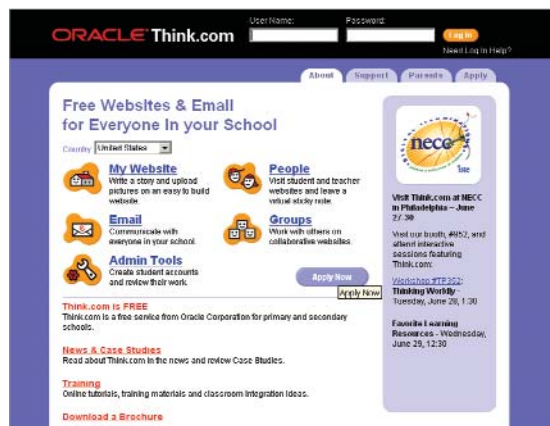
"At the schools I visit, I plan to present these letters and a digital video of my school community and students. I hope to create partnerships with Indian teachers and students and to use Think.com as the medium for connecting our students in a human way that is only possible with technology."

In The Future

Students get a wider platform to express their ideas and independent thinkers and curious learners can learn more through this live and happening medium. With educators using Think.com in the classroom, the Internet is fast becoming a ubiquitous learning tool.

At the same time, a broadband connection is a must-have to facilitate this catching concept. India Inc needs to leverage its people, technology and resources to promote meaningful change and make education a fun learning experience across the nation. ☒

renuka_rane@thinkdigit.com



Think.com is visually rich with a highly interactive interface

Of PIPs And Punch Cards

- 1** What is the name of the first laptop that was sold by IBM in April 1986?
a. PC-Portable b. Convertible
c. Lapbook d. PC-SX



- 2** Punch cards were originally designed for which of the following machines?
a. Computers
b. Cash registers
c. Printing presses
d. Weaving looms

- 3** Which of the following companies' computers ran the Multics operating system?
a. Digital Equipment b. IBM
c. Honeywell d. Compaq

- 4** What is meant by the term 'browser-safe colours'?
a. Colours that are seen the same way in Windows and Mac
b. Black print on white background
c. Colours that remain unchanged in image editing programmes
d. Colours that are not variant of the original colours

- 5** What does PIP stand for?
a. Private Internet Protocol
b. Program Initiation Procedure
c. Personal Internet Portal
d. Printer Integrated Plotter

- 6** Which company has the distinction of manufacturing and marketing the first commercial digital PC?
a. IBM b. NCR
c. DEC d. DG

- 7** What was the important concept that DOS 2.0 introduced to computing?
a. Windows b. Internet
c. Subdirectories d. Mouse

- 8** Which of the following devices were not used to input data into computers?
a. Telegraph keys
b. Reel-to-reel tapes
c. Paper tapes with holes punched in them
d. Telephones

- 9** What is meant by BT Fusion?
a. BT's wireless handset
b. BT's new broadband service
c. The 2005 Seminar by BT on convergence
d. British Telecom's new mobile-cum-landline phone

- 10** What does ADB stand for?
a. Absolute Data Byte
b. Apple Data Bus
c. Apple Desktop Bus
d. Apple Data Byte

Did you know?

Most numbers on a phone keypad have letters assigned to them. For instance, the letters for the number '2' are a, b and c. But there are no letters assigned to the numbers 1 and 0.

These numbers remain unassigned because they are the so-called flag numbers, kept for special purposes such as emergency or operator services. Previously, Q and Z were also not included on the keypad, meaning that you could not dial a word such as Quincy. Q is now assigned to the number 7, and Z to number 9.

Answers

1. Convertible	6. NCR
2. Weaving looms	7. Subdirectories
3. Honeywell	8. Telegraph keys
4. Colours that are seen the same way in Windows and Mac	9. British Telecom's new mobile cum landline phone
5. Personal Internet Portal	10. Apple Desktop Bus

Got an interesting question? Send it in with the answer to editor@thinkdigit.com Mark 'TQ' in the subject area

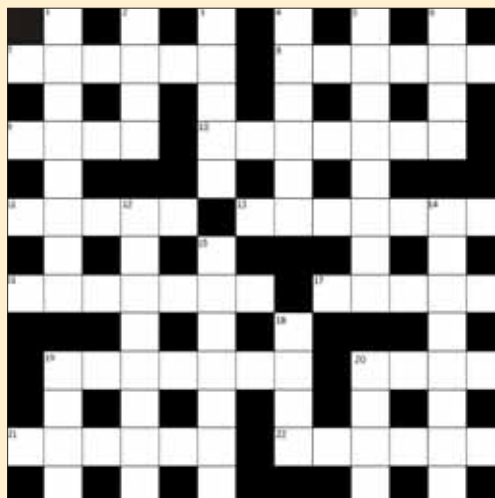
Crossword

Across

- 3.5-inch diskette hanging limply (6)
- Unilateral (3,3)
- Application-Specific Integrated Circuit (abbr) (4)
- Favourite snack among hackers (7)
- Hardware blows-up in hot vapour (5)
- Change e-sachet to confiscate (7)
- Terminated programme transforms red boat (7)
- Distinguishing quality of a product (5)
- Writing for the blind (7)
- Maximum value of power on the highest point (4)
- Man rig upsets space between text and the edge of the page (6)
- Web browser plug-in to view compressed files (6)

Down

- Disorderly group of people from electronic media (5,3)
- Electronic Privacy Information Centre (abbr) (4)
- Computer language 'Ada' was named after this famous mathematician (5)
- An object oriented database management system (abbr) (6)
- Decode upsets rich deep (8)
- Start off hut to write programme code (4)



- 'K' in K-map (8)
- Draft of movie revolutionises a main tic (8)
- Database of medical publications in the UK (7)
- A component of Sun microsystems is a coffee seed (4)
- DC deliberately made to flow (4)
- Clickstream in a route (4)

Send in your Crossword answers with complete contact details to TQ@thinkdigit.com. One lucky participant will win the 'Webster's New World Computer Dictionary' by Bryan Pfaffenberger, published by IDG Books India (P) Ltd.



Win!

May 2005 Solution



There was no winner for the May 2005 crossword. Better luck next time!

The Age, Melbourne, June 7

A Bit More Focus On Apple/Intel... Perhaps

GARRY BARKER, A columnist for the Melbourne daily newspaper, The Age, has reported on wars, political movements, coups and counter coups. But his true calling was Technology. As the Technology Editor, his comments on Apple's move to Intel throw up some interesting comments

So, now that some of the dust is subsiding and the stampeding herds are headed for the bars, may we offer a couple more thoughts on the forthcoming change in processor suppliers at Apple:

1. Jobs used Intel processors in the boxes he built at NeXT, the computer company he founded after he was kicked out of Apple (OK, he lost a palace revolution) in the mid-80s. Some say he was replaced by John Sculley, which is not so, since Jobs was not at the time the CEO. However, return the mind to NeXT. It had Intel inside.

2. NeXT and its Unix-based operating system were bought by Gil Amelio during his brief and inglorious period as Apple's CEO. He also hired Jobs as consultant, which resulted in the departure of Amelio and the rejuvenation, resurrection and resurgence of Apple.

3. NeXT OS is the base on which Mac OS X was built. As Jobs observed at the World Wide Developer conference in San Francisco last night, Mac OS X has always run on Intel processors. It's just that at the time, and so far, Apple used PowerPC a RISC chip designed by a team formed by Apple, IBM and Motorola. Motorola dropped out, although Freescale, a Motorola spin-off chipmaker, still makes the G4s that are in PowerBooks and iBooks.

4. IBM has had big problems improving clock speeds and reducing heat from its G5. Yields were also a problem, causing delays in delivery of Power Mac G5 boxes.

5. Apple needs a 3 GHz PowerBook. Jobs said last night that the PowerPC is unlikely to deliver that kind of performance, and, more importantly, low power drain and low heat output, in time for Apple to remain competitive in the important notebook market. Somewhere around 30 per cent of Macs sold are notebooks; maybe more.

6. With video becoming ever more important to consumer electronics, and with competition looming from devices such as the PlayStation, Xbox, and a heap of stuff already starting to cascade from the mega-factories in China, Apple also needs faster, more powerful computers, of whatever form the designers and engineers next produce.

So, finally, what does it all mean? It is a change of processor. It will require a lot of engineering work, but not so much as you would think. And for the rest of us ... will we notice? I doubt it.

These days it does not matter who makes the chip or how it works. What is important is what it does. Mac OS X will run on the Intel chip. It will still be Mac OS X. Version 10.4 (Tiger) will continue to be upgraded, one supposes, and Version 10.5 (dare we suggest it will be called Leopard—because the story goes the leopard can change its spots (processor)—will be out in a year or so.

All of our much loved features (and the very few that bug us) will be there. Life will go on.

Read more at <http://snipurl.com/fq1h>



CNET.com, June 2

Five Reasons Social Networking Doesn't Work

MOLLY WOOD, SECTION editor at CNET.com, engages in ruthless industry analysis in the form of the Daily Buzz and keeps track of tech interests in the Weekly Buzz Report. Her take on why online networking sites won't work is indeed interesting

The word on the street lately is that social networking is in trouble. Friendster has introduced its for-pay blogging tool as an all-too-ironic money-making scheme. Business networking site LinkedIn started charging for its job listings. Business 2.0 has an article about how the indie music networking site MySpace is, for all intents and purposes, the only successful site.

Social networking is labouring under the inescapable weight of the dot-com curse: you have to find the money. No matter how cool your idea is, it's dead on arrival without an actual business plan. At least, that's the theory. If that's true, though, why has blogging, which seems like a neat idea dependent on interest but without a concrete revenue stream,

managed to not just thrive, but really dominate the Web? Is it really true that free services can't be effective business plans? Or is it possible that—gasp!—social networking isn't really that tenable an idea after all? Here's my list...



1. There's nothing to do there

As Business 2.0 points out, a simple destination site won't cut it. My big beef with Friendster was always, "Well, what would I do there?" Visiting most social networking sites is akin to getting invited to a party where all the cool kids are going, then showing up and finding out there's no food, no drinks, no band...

2. It takes too much time

Yes, I know I can choose where to devote my time, but Orkut, Friendster, and even LinkedIn are interesting but less information rich than news sites, blogs, Google news, or...

3. Traffic alone isn't enough

The reality of the new Web is that traffic alone just doesn't cut it. You can get all the visitors you want to your site, but you can't just blanket the thing with ads and hope to survive.

4. Strangers kind of suck (or, put nicely, the social hierarchy is really not that attractive)

Getting to know people is, frankly, a less attractive proposal than it first seems. Suddenly, you're bombarded with date offers or all-too-frequent postings about the unsavoury or just plain uninteresting habits of the strangers you suddenly know.

5. We already have the Internet

The only lasting argument about social networking is that these networks are a valuable resource if you're adrift in the sea of online information. But the argument's a little thin in a world where search is the king of the hill. If I need information online, I can find it.

Read the full article at <http://snipurl.com/fq1j>

eWeek, June 6

Don't Punish VoIP—Or Its Users

EXECUTIVE EDITOR OF News at eWeek.com Chris Gonsalves has been a strong advocate for the use of VoIP over the years. But he's not too happy with the way some of the products are shaping up and, in his own inimitable style, makes it known

I didn't switch to voice over IP at home because it was better. I went to VoIP because it was cheap. What is it about that equation that the FCC bureaucrats can't fathom? Is it so complicated that hand-wringing columnists and legislators who can't spell "IP" just don't get it?

VoIP service is barely OK. It is marginally better than a military field phone. I can tell when the anti-virus software on my PC is updating in the middle of a phone call. It doesn't work when the power goes out. It sometimes doesn't work when the power comes back on.

What does it cost to buy my acceptance of such transgressions? Sadly, a mere \$24.99 a month. As with my boat and my motorcycle and anything I've ever bought at Wal-Mart, I got what I paid for. The less I pay, the crappier the stuff, and,

more often than not, the happier I am.

Accepting VoIP with all its rough edges was made easier by two decades of passable cellular technology. Cell phones so degraded my expectation of what a phone call should sound like that I'm now willing to accept the clicks and echoes and dropouts on VoIP.

My grandfather would never have stood for the sound quality most of us now find routine when we talk on any phone.

But now government agents want to take away my cheap, crappy phone service. The reason, they claim, is because I've been left in grave danger by unscrupulous VoIP vendors that are denying me full access to 911.

Forget about the fact that I agreed to VoIP's method of routing 911 calls at least a dozen times during the sign-up process.

You can even forget that a snippy Verizon rep berated me for cancelling my land lines with the warning that I'd be cooked in an emergency.

"Yeah, but \$24.99 a month!", I shouted.

"It's your call," the rep said.

The bottom line is I don't care. And neither do most VoIP users if my e-mail and the Internet forums are any indication. Everybody knows what VoIP is and what it isn't. Still, the FCC now says VoIP service providers must solve the 911 location problem for the lowest common denominator of VoIP users.

If the FCC really just wanted to keep us safe, why couldn't it have pushed the Bells to make certain that all cancelled land line jacks still support 911 calls?

They can do that, you know, and, in some places, they do. I could have a hot-line phone in my house for emergencies only, courtesy of Verizon. I'd buy a red phone and put it under a cake dish. Alas, Verizon left me with DC power but no dial tone.

I have no doubt an answer will be found that saves VoIP in some fashion. The service will be dumbed down. It'll lose its portability features. It will probably be more expensive, but it's not going away. The Bells will get a piece of the action.

Still, I wish the government would concern itself less with the business model of the Bells and extend to me my right to get exactly what I pay for, especially when I'm not paying that much.



Psst!

Things that are supposed to be private remain private. That's the message this great advertisement for Adobe Acrobat 7 conveys. It shows how even in the most public of places, one can maintain privacy. And the visual is nicely shot as well.



Wrestlemania?

This Wired NextFest advertisement pits the HOAP-2 robot against a sumo wrestler—flashbacks of Terminator anyone? The future is upon us, robots are getting smarter—let's just "HOAP" it doesn't happen too soon.

Read more at <http://snipurl.com/fq1l>

A Full Year On A Single Charge!

Logitech has launched a cordless notebook mouse that promises to be powered for a whole year on a single AA battery charge. The V200 features a battery-light indicator that notifies the user when the batteries are running low. The V200 will cost £34.99 (Rs 2,765).



Podcasts: A Collector's Passion

A filmmaker who has been collecting digital artefacts for 25 years is amassing the world's largest collection of podcasts. Jason Scott, a 34-year-old documentary filmmaker from the Boston area, has saved and catalogued more than 340 GB of online amateur radio since he started in February.



Escape

'HARMFUL INFLUENCES'

China Will Vet Online Games

China seems obsessed with what effect the Internet is having on its youth, as regular readers of this section will recall. Now, Chinese state media say the country will soon release a set of rules to critically evaluate the content of online games as part of a campaign to combat what it sees as harmful influences on the young. Xinhua news agency said the move "is part of the government's efforts to purify the content of online games, prompted by strong public pleas."

Under new rules drawn up by the Ministry of

Culture and the Ministry of Information Industry, released in June, game manufacturers are required to revise game rules that might lead to addiction.

And the government will even endorse clean games to youngsters during the summer vacation! The two ministries will recommend these as healthy "premium games".

"Players of online games are mostly people under 35 years old," Zhang Xinjian, a cultural ministry official, was quoted as saying on June 7. "These people are

prone to the negative influences of sex, violence and other types of unhealthy content in online games."

A report by the cultural ministry quoted the bizarre example of a 13-year-old boy who jumped to his death from a 24-storey building in a flying posture, after leaving a note saying he was joining three friends, who were characters in an online game. We're not sure if it was all the games that led the boy to do what he did, but the report quotes this incident just as though it was.

To put this report and the new rules in perspective, Beijing launched a nationwide crackdown on online computer games last year, banning foreign games with sensitive political content. The Ministry of Culture has already banned 50 electronic games earlier this year, including FIFA Soccer 2005 and Microsoft's Age of Mythology, ostensibly because they are addictive.

And to put the extent of the 'problem' in perspec-

tive: Xinhua said China now has 23 million online game players, a surge from 13.8 million in 2003. Also, China saw sales of online games in 2004 soar 47.9 per cent to 2.47 billion Yuan (Rs 1,300 crore).



Illustrations: Harsho Mohan Chatteraj

UNUSABLE!

www.3pjobs.com



“There is no greater imperative for any business, than the necessity of getting right people, in the right jobs. All value creation flows from that.” That’s a great headline for a job site—but for this job site, the headline is an embarrassment: it’s got no jobs to search through!

Even better is the fact that right on the top banner where it says “3P consultants Pvt. Ltd.”, they claim they’re “Corporate India’s First Choice”. Huh? With a Web site like this one, with only two clickable links?

Oh yeah, the clickable links. 3P consultants seems to have liaisons of some sort with Penrhyn International, and there’s one link to them; we’re also to suppose that they’re a member of the Association of Executive Search Consultants, to which there’s another helpful link.

And that’s about all there is on the page. Well, there are several other links as well, such as “Our firm”, “Our beliefs”, “Clients” and so on, but they’re, well, not clickable.

Win! My Desktop

Think you have the most beautiful, most innovative desktop around? e-mail with subject **'My Desktop'** and your postal address to **mydesktop@thinkdigit.com**, and Digit will publish the most eye-catching of them each month.

The winner receives a copy of 'Webster's New World Computer Dictionary' by Bryan Pfaffenberger, published by IDG Books India (P) Ltd.



Siddharth's desktop is really easy on the eye
Sent in by Siddharth Agarwal, Bangalore



This month's winner is **Ankur Varshney**

He wins **'Use Case Modeling'**

by Kurt Bittner and Ian Spence
Published by Pearson Education (Singapore) Pte Ltd



WIN!

The 'Professional DCOM Application Development' book just by sharing an amusing picture with a tech angle to it. The picture should be shot by you, and should not have been published anywhere earlier. e-mail your picture with subject **'Digi Pick'** and postal address to **digipick@thinkdigit.com**. The prize-winning picture will be published each month.

DATA IN THE WRONG HANDS

Most eBay HDDs Contain Sensitive Stuff

We reported earlier in this space that a hard disk containing sensitive data belonging to the German police had been sold on eBay for ₹ 20 (Rs 1,100). And now, from a survey carried out by the O&O company based in Berlin, called *Data, Data everywhere*, it turns out that of the 200 second-hand hard disks bought on eBay

and scanned for stored information, over 70 per cent contained personal, or accurate and detailed, business data.

In some of the cases, the discovered data was very highly sensitive, seriously jeopardising the security and budget of the hard disks' previous owners. The Berlin-based company also announced by means of this study the methods used to recover the data stored on these hard drives, which are legal and available for interested parties. Using the O&O UnErase and O&O DiskRecovery applications, the data was quite easy to be tracked in the case of over 70 per cent of the cases tested.

It's terrific: of the 3.3 millions files discovered, the specialists from O&O in the course of the survey managed to recover almost 40,000 files generated by Microsoft Word, 15,000 Excel files and the contents of approximately 50 e-mail accounts. The best part is, all the information was found in the same shape as used by their former owners.

This is an area of serious concern, and experts list a variety of ways using

which data should be erased from a hard disk that's about to be chucked. These vary from the straightforward, like formatting the disk several times over, to the extreme, like physically burning it.

YOU'RE NOT ALONE

E-mail Addiction, A Phenomenon

If you check your e-mail several times a day, including when you don't really expect new mail, and even feel silly about it, you're not alone! It turns out that e-mail 'addiction' is a pretty common phenomenon.

The Opinion Research Corporation conducted a methodical study to find out more about this. The study, sponsored by AOL, was conducted on about 4,000 adults in the 20 largest cities in the United States, and revealed several interesting facts.

Forty-one per cent of respondents start the day by checking their e-mail—



Illustrations Harsho Mohan Chatteraj

Programming Paradigm Pioneer

Bjarne Stroustrup is to programming what Steve Jobs is to desktop computing. He is credited for making programming



more logical, rational and powerful. Stroustrup is the inventor of the C++ programming language, widely regarded as the most powerful programming platform.

With C++ as his tool, Stroustrup revolutionised the use of object-oriented and generic programming techniques in application areas where efficiency is of the essence.

Apart from implementing the object-oriented paradigm in programming, he has made significant contributions to distributed systems, design, programming techniques and software development tools.

Stroustrup has shared his ideas about C++ widely. His book, *The C++ Programming Language*, is one of the most widely-read books of its kind, and has been translated into at least 18 languages. The book has achieved cult status in colleges worldwide. He later released a book, *The Design And Evolution Of C++*, which offered new insights into the description of the way a programming language was shaped by ideas, problems, ideals and constraints.

Bluff

YOUR WAY THROUGH

Networking

Every device you buy today boasts of one or more ways to network it. However, not all of us are as comfortable with networking terms. We hope this will help...

CAT: CAT5/CAT6 are fifth and sixth generation Ethernet twisted pair cable standards defined by the Electronics Industries Association and Telecommunications Industry Association (EIA/TIA). CAT has nothing to do with felines.

Usage: Someone brought a cat to the office, but unfortunately the cat had a liking for CAT cables. Now we're planning on implementing a WLAN!

Network Address: A network address is a unique identifier for a computer on a network. Computers determine the addresses of other computers on the network and then use these to send messages to each other. An example of a network address is the Internet Protocol (IP) address, or the Media Access Control (MAC) address.

IP: An IP address uniquely identifies computers on a network. It can be private, for use on a LAN, or public, for use on the Internet. IP addresses can be assigned as static IPs (by a system administrator) or dynamic IPs (on demand, automatically, by another device on the network).

MAC: Device manufacturers permanently burn a Media Access Control (MAC) identification into networking devices, so that they can be identified easily. Using a MAC address authentication, computers can ensure that they connect to the right destination everytime, preventing fake devices from claiming to be the destination for data.

Usage: There was a hack attempt recently, some guy got hold of a networked IP address on our WLAN. He then used that address to spoof himself and identify with the WLAN and started deleting files at random. Chaos ensued, but our systems engineer used a lookup to find his MAC address, which we then traced to his internet IP address. His current address is jail!

Move Over

Wise men over the years have said, "Change is the only constant". We couldn't agree more. Living in the technology world, we have to embrace the changes that come about at a rapid pace and a big change is currently taking place in Team Digit. As we bid goodbye to our executive editor Sachin Kalbag with a heavy heart, it is time to welcome the new Ed, Deepak Ajwani. "It's been a great ride, but as I had said in my last month's editorial- "*Yahan Par Hamarai Kahani* offbeat *ho jaati hai*, this is where we part ways," said Sachin. So, as Deepak finds his feet in the Digit-al world, let's give him a warm welcome, shall we?

Speaking of changes, there are some more that have been made to this issues'

DVD and CD. They both carry unique content now and will also no longer need a browser to install. Yes, we said it earlier too, "change is the only constant". A lot of time and energy was spent debating ways to improve the DVD/CD combo further and the results are there for all to see. Kudos to Robert and Ishan who have successfully implemented it (and as usual, in a tight timeframe). Be sure to let us know how you like it.

This month was also a 'sick' month given that three team members were down and out of action for a while. Changes in weather and the seemingly never-ending wait for the elusive monsoon finally took a toll. It could also have been all the 4th anniversary celebrations that happened, you know!

DIGIT DIARY



meaning the first thing they do upon getting out of bed is check their e-mail! On an average, respondents admitted to checking their e-mail five times a day. The average US e-mail user has two or three e-mail accounts and spends about an hour every day reading, sending and replying to messages. US residents are so hooked on e-mail that some check for messages in the bathroom, in church and while driving.

About a fourth of respondents acknowledged being so addicted to e-mail that they can't go more than two or three days without checking for messages. Now that is addiction!

TOUGH NEW LAW

Sweden Bans Net Downloads

In the first such move that we've heard of, Sweden's Parliament has passed a law that will make it illegal to download copyrighted material from the Internet, effective July 1, and has approved measures to discourage people from burning copies of CDs and DVDs. The law also outlaws technology and software used to circumvent copy protections on copyrighted material, including music, movies and games.

Members of the Parliament argued the usual way—that musicians and film-makers, for example, have the right to receive proper payment for their work.

It happens that Sweden has been plagued by one of the highest rates of piracy in the world, according to industry officials. Until now, it was only prohibited to make copyrighted material available for others to download, while it was legal to download it yourself. The

scope of the new law doesn't end there: it also makes it illegal to copy an entire book in a copying machine, including textbooks in schools.

So how will the law 'discourage' people from burning CDs and DVDs? There's been a tax slapped on recordable CD and DVD-discs. Consumers will have to pay an extra tax of 1.75 kronor (Rs 10) for a 700 MB disk. Also, the price of a 5 GB DVD is expected to rise from 10 kronor (Rs 60) to 30 kronor (Rs 180).

An interesting aside to all this is that a huge Swedish torrent site, The Pirate Bay, already has a message on the main page of the site saying "By the way, we will NOT shut down on the 1st of July."



whatweretheythinking.com

www.anotheruselesswebsite.co.uk

OK. We discovered there are a lot of sites out there that label themselves as 'useless', but this one takes the cake. There really *is* nothing up there on the site!

Of course, there is *something*. It's all text and a couple of screenshots, and it goes like this: "This site is basically about nothing. You can't buy anything or play games or look at dirty pictures or read a dull blog..."

Fair enough. But the site's creators also have a plan, as in the following: "As the site has no real content, my challenge is to see just how much interest we can generate."

So what were they thinking? How did they expect the site to generate traffic? Did they pepper the source code up with very interesting keywords? There's also a "How can I help" section, where one is urged to spread the news of the existence of the site via word of mouth and more. But why *would* one want to promote their site for them? Soul-searching questions.

The site's creators say the site has been mentioned on istockphoto.com and jamsarts.com, and that they've been receiving more hits as a



www.anotheruselesswebsite.co.uk

result. Now what were *they* thinking? We mean [istockphoto](http://istockphoto.com) and [jamsarts](http://jamsarts.com): why did they bother to mention this site? We'll never get to figure that one out, unfortunately.

Now here's the most interesting part: since 22 August 2003, the site has received 18,915 hits at the time of going to print. We wonder *how*.

.XXX OKAY

ICANN Approves Adult TLD

It's been in the coming (no I pun intended) for quite some time now, but the plan for a .sex TLD (Top-Level Domain), amongst others has finally been approved. As it turns out, it's not to be .sex, but .xxx. The Internet's primary oversight body, ICANN (Internet Corporation for Assigned Names and Numbers) approved a plan on June 1 to set the stage for pornographic Web sites to use new addresses ending with .xxx. ICANN said it would begin negotiations with ICM Registry, run by British businessman Stuart Lawley, to iron out technical issues and prices for the new Web addresses.

Adult-oriented sites, a \$12 billion (Rs 52,200 crore) industry, could begin buying addresses with the .xxx TLD

as early as fall or winter depending on ICM's plans, ICANN spokesman Kieran Baker said. The new pornography suffix was among 10 under consideration by ICANN, which also recently approved .jobs and .travel domains.

ICM contends, rightly we may say, that .xxx Web addresses, which it plans to sell for \$60 (Rs 2,600) a year, will protect children from online smut if adult sites voluntarily adopt the suffix, so filtering software used by families can more effectively block access to those sites.

But it's in that 'voluntarily' that the problems lie. "It will further help to protect kids," said John Morris, staff counsel at the Washington-based Center for Democracy and Technology. Morris, however, predicted some adult sites will choose to buy .xxx addresses, but that others will continue to use .com. ■

Compiled by Aditya Kuber, Ram Mohan Rao and Renuka Rane

Blog WATCH

Our hodgepodge of blog postings this month has it all—from online resources on scale spaceship modellers to buying a gaming geeky and other geeky ramblings

Disconnected Life
<http://disconnectedlife.weblogs.us/>

Nvidia, TWIT and G4
I plan on grabbing the new nVIDIA card later this month. I hear that the new 7000 series are coming out this month and the price of the 6800 I want will drop considerably then.

Twit... This Week in Tech! Yes they know the acronym spells twit and they call people twits who watch it... I guess it's clever for nerds. It's honestly a great podcast show. In case you don't know what that is, it's a Web radio broadcast that you can download. Weekly, the guys from the old screen savers (Pat, Leo, Yoshi, Kevin) and some times other lesser known techies from the show, have an hour long broadcast. Basically, it's the screensavers radio show. So for this I love it. I missed it when G4 (which apparently stands for girls, gaming, gadgets, and gear) castrated the show then beat it with a bat 'til all the fanboys cried. I find it is fun to listen to it while I work on my 3D studio max stuff or just surfing the net for something in particular.

1000 Degrees Below Zero
<http://biohazard11.free.fr/>

Techo-Starship modeller/Web resource
Here's an enormous Web resource for scale spaceship modellers. I'm not one, as I'm cheating and working 3D most of the time. These guys take days (months) with

real materials when I can drop a few volumes with my favourite CG (Computer Graphics) package. I've also found there a guy who has made the Alien IV's Betty from scratch. And his looks better than mine.

AdSense Digest
<http://adsense-digest.blogspot.com/>

Alternative traffic sources
I had close to 33,000 clicks in May and around 600,000 AdSense impressions. My average pay per click comes roughly less than 30 cents or so. Unique visitors 187,000 according to my awstats. Roughly 80% of my traffic referrals come from 7 major universities (4 American, 2 Canadian, and 1 Swedish) who included link to my site in various journal/article references and abstracts on their pages. I assume that most of my traffic is comprised of students.

Techbook
<http://sandeep.weblogs.us/>

PyS60 Pre-Alpha links fixed on forum Nokia
A couple of days back, Christopher Schmidt was trying out the pre-alpha release of Python for Series 60, and was surprised the camera module was not working on his 6600 (the camera module is not supported on 3650, but is supported on 6600 and upwards). Well, the reason was apparently a broken link on Forum Nokia's download page... it's fixed now.

Difference Between C and C++

damnthenet

Analogue Novice

Location: Chennai

Even I'm only learner when it comes to programming. The difference between C and C++ technically is that the former is a structure oriented language and the latter, an object oriented programming language. When it comes to usage in companies, it entirely depends on the purpose. What the company feels better enjoys the priority.
Daniel Moses

devilhead_satish

Resident Techie

Location: Mumbai

Why i ask you Why? Why should you use C++ in the age of Microsoft.net Tech and loads of other futuristico programming apps. If you cite speed as the reason. i'll tell you that it wont be long before everyone has a GigaHertz Guzzler. Apps in C++ take horrendously long to make. Even a simple form will take you a day to build which is readily available in .Net .

Calcatian

On A Warning

The throne at the royal palace of Smiley Kingdom!

If there is one thing you guys are good at-its making a thing as much complicated as possible. Don't worry imagineer_aman, here is a simpler explanation.

You see "C" has got no class, so if you wanna be a digital majdoor and spend your life away with humongous code-crunching, then "c" is gonna be your tool. And belive me, you will get a good job, people all over the world will use firmwares and other good stuff that you wrote but no one will know your name.

Now, C++ on the other hand is all classy (not classic-that's C), so if you are like me you will learn C++ lingo (like I did when I was your age) and quickly upgrade yourself to its latest offspring VC++.net (which is a gr8 thing contrary to what some bozos may say as apps developed with it runs noticeably faster than any other RAD tool) and earn your shot to fame.

For example, if I disclose my real identity in here, no matter who they are or where they're from, 99.99% of the members will instantly recognize me .So there you have it.

(Now, I wonder why I tend to use lots of parentheses whenever i'm typing anything)

escape7

Resident Techie

Location: New Delhi

Mathematically u can say: 'c' is a subset of "c++"

Good Anniversary Issue

I am 69 and a subscriber of *Digit* for the last three years. I eagerly look forward to its arrival every month during the first week! As a part of my recent renewal I got the three CD pack of Britannica and it is giving me a useful time. So was the CD 'Greatest 102 Freeware' that came with June issue of *Digit*. A big 'thank you' and hope you keep it up.

M S Ramachandran

Via E-mail

Dear Mr Ramachandran,
I am glad that people at your age too share a passion for technology and read our magazine for an update on tech-knowledge. Thank you for your kind words. We will not let up in our endeavour of giving our readers the best.

—Editor

There's Spyware In My DVD/CD

I am a reader of *Digit* for over 4 years, and as a concerned reader, I am deeply disturbed that *Digit* is promoting Spyware disguised as 'Free Games'. In your June issue, you gave 30 so-called free games, but in reality, it contained lot of Spyware and Adware, thanks to Microsoft Anti-Spyware Beta 1, I was able to detect it on time before it could jeopardise my PC. I always thought that *Digit* is a responsible and reliable IT magazine. But to be

frank, sadly, this once

responsible magazine has become mockery and for few bucks from the Spyware and Adware sites, you people are promoting, showing no concern for the security of the end-users of PC. You can always take the plea that the was a user agreement to be clicked 'Yes' before installing the Spyware games but most of the PC users have habit of overlooking these user agreements, I honestly believe that it is your moral responsibility to protect the interests of your readers by not fiddling with the security of their PCs. I know that you guys will show this mail the way to



dustbin. I feel pained to write this, you people have lost my faith in you, so to be frank I am stopping to buy *Digit* which I always bought from the nearby newsstand.

Mahesh Parrikar

Goa

Dear Mahesh,

With the increase in the number of Anti-virus and Spyware detectors, there are no standards to define Spyware. What one anti-virus programme considers harmless adware, Microsoft's Anti-spyware Beta 1 may detect it as Spyware. The task has become increasingly difficult to identify what is malicious, and what isn't. For example, Adware that Norton Antivirus ignores shows up as a Trojan with Avast or Kapersky anti-virus, and vice-versa. A couple of the games distributed on the DVD and CD in our June issue are Ad-Supported freeware, while others are completely free. In order to offer the best possible protection from malicious code we scan all software to be included in the DVD or CD with Norton Antivirus (with high heuristic scanning), Avast anti-virus, and Spybot Search and Destroy Spyware cleaner. We think this is the ideal combination of trusted software to test for malicious code.

We thank you for informing us of the detection by Microsoft Anti-spyware, and, will look at including it in our testing process as well.

— Editor

Broadband, Narrowband...

With reference to your editorial in May, I would like to bring to your notice my personal experience with broadband. I have a 128 kbps Hathway connection at home and one 256kbps BSNL connection at office. Despite your observation, I have no complaints against my cable broadband where I usually get speeds above 128kbps throughput (checked through ZDNETIndia website) in stark contrast to a measly 30-40 kbps on BSNL. To rub the salt on our wounds, the representatives of the department are busy blaming each other whenever we try to register a complaint.

It seems they don't even have a complaint cell; we need to call 198 and they always send a telephone technician who ends up saying everything is fine with phone line. If the government itself has such a callous attitude, how can anybody even think of getting broadband in India? At



Write to the Editor

E-mail: editor@thinkdigit.com

Snail Mail: The Editor, Digit, D-222/2, Om Sagar Building, MIDC, TTC Industrial Estate, Nerul, Navi Mumbai 400 706

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Inbox

least these cable wallahas attend to complaints; at BSNL, I don't even know till date (trying for two months now), who the right person to take my grievance to is.

Pradeep
Via E-mail

Congratulations for completing four successful years as India's Best Tech magazine. You guys are still unbeatable! Convergence is truly going to be a part of our lives, but I fear that factors like cost, infrastructure for setting it up in mass and compatibility will pose a problem in the Indian market.

It was a real disappointment for me to read the editorial "Broadband, Narrow minds". Right now in India, broadband Internet is not restricted only through cable. With BSNL entering with reasonable rates and good service, as well no headache of extra cable laying and wiring hassles, I see no reason for

people to wait for ISPs to give Broadband through cables. I live in a region of Ahmedabad where none of the ISPs; Satyam, Icenet, etc; provide broadband service even after two years of their existence in Ahmedabad. The option was to go in for either for Tata or Reliance, but their offers were not as attractive.

BSNL, though, gave me a 256 Kbps connection at Rs 500 per month (apart from the initial cost of Rs 3,100) on my telephone line within three days of inception of its service. So I don't get the point as to why people living in big cities like Mumbai should be at the mercy of their MSO for a broadband connection.

Nitin Gajjar
Ahmedabad

I read your columns that advocate 'real' broadband in India. The current situation is pathetic. I have had a long trail of interactions with Iqara. The situation seems hopeless. I did not fall for the stupid MB packages but even with the unlimited connection, I am

stuck with a slow 40kbps line that rarely works well. This is their 'broadband'.

Considering how ignorant majority of the net users are about what an MB means, there should be laws on minimum disclosure as regards MB packs and what the meaning of broadband really is.

Harshad Oak
Via E-mail

Dear Pradeep, Nitin and Harshad,
You can yourselves compare the varied reactions from different geographical areas and judge the consistency (or the lack thereof) of our broadband service providers. Moreover, the MSO problem arises where the cable operator has a large subscriber base that is potentially also a subscriber to the Internet (broadband or not in reality is a debate for another day) service that the MSO may provide. Until the MSOs actually start their service, they will not let anyone else walk away with their potential market! As for BSNL, the service is as unique as your individual experience!

—Editor

Problems with April Issue DVD

I am regular reader of *Digit* and am very happy about the fact that the *Fast Track* series will be covering varied subjects on computing. This is one of the reasons I buy *Digit*.

But when I bought the April issue, (with the book about Viruses), my adrenaline rush was gone when DVD was unable to run even a single file.

When I contacted news stand, I was told he had nothing to do with this. Since I was not a subscriber, I thought you won't be replacing the DVD.

When I was going through your June issue, there was good news. In the *Digit* Forum column, I found out that even some of your other readers also had the same experience and how they got the fresh copy.

I thought I might also try for it...

Raghavendra Prabhu
Mangalore

Dear Raghavendra,
Yes, it's widely acknowledged that there were problems with April Issue DVD. Your address details have been forwarded to our Helpdesk and you should be receiving replacement DVD for April within 15 working days.

—Editor

Deep In The Core Of Technology

I have been a subscriber of *Digit* for as long as I can remember. Your Anniversary issue was par excellence and expectations and the only thing you now have to beat is yourself.

In a Utopian society, which is projected by these thoughts, one is compelled to think of trivialisation of all earthly pursuits, which today drive mankind. In my understanding of the matter, immortality would take the juice out of human life. The fact that our days are numbered makes us so special. The beauty of life lies in the fact that it is limited. Certainly immortality would end reproduction, which in fact, would mean the perpetual inhabitation of this planet by the same set of people.

Since we would be immortal, our intellects would all be used up in further perfection, and when the present people set is out of ideas the society would essentially become stagnant.

When originally we were trying to define Cyborgs as a convergence of human and machine, and were discussing the fact that even a clothed individual could be considered a quasi-cyborg (majorly human, minorly artificial), we would then actually become the same quasi-cyborg (only this time, majorly machine and minorly human thanks to conversion).

The notion that everybody will be happy is ridiculous (and so is the notion of Utopia). Human beings derive happiness from the miserable state of others.

Yes, our present way of survival has destroyed half the planet and our brains work with body and senses in compatibility mode. But the idea of a totally sedated-mechanised-thoughtless-desireless-perfect society is just too scary. I feel blessed that I shall die in 70 years without having to experience this horror.

Still, thanks to *Digit* for the food for thought. Under the shell of the glitzy machinery, your articles have the light of deep rooted wisdom.



Aritra Das
Via-E-mail



Tabloid TECH

People And Events That Grabbed Headlines—For Better Or For Worse

Blogging Goes Naked

Singapore frowns upon anything vaguely pornographic, but most laws are for print and video—the Internet is still a grey area. And it's in Singapore that sexy 19-year-old 'Sarong Party Girl' has hosted her blog, posting nude pictures of herself on it.

The site is sexually explicit, with the first few words on the main page going "Size does matter..."

Foreigners, too, are discussing the blog, which details Sarong Party Girl's life and sexual escapades. But Lee Kin Mun, who writes under the moniker Mr Brown, said the online outcry put "unnecessary focus" on what the girl did.

"The general response from the blogging community is, 'What's the big deal? What's all this fuss over a pair of Singapore breasts?'"

Ash #1 With *Desis*

MediaWire, a free online press release service, reports that Aishwarya Rai is the most popular Indian celebrity online.

In the latest results posted by desifans.com, an Internet popularity engine for Indian celebrities, Aishwarya Rai led

the race with 90 points. Shah Rukh Khan came second with 24, followed by Salman Khan at 20, Kareena Kapoor at 16, and Rani Mukherjee at 15.

More details, including a comparison engine for various *desi* celebrities is at <http://www.desifans.com>.



Britney Tops Virus Charts

Spanish anti-virus firm Panda Software has produced a ranking of famous people's names used most often to spread viruses. As an indicator of her enduring popularity, pop star and reality show vixen Britney Spears' name is used more often than that of anyone else.

Panda Software says most virus creators employ the names of good-looking women celebrities or other famous people with which to send their infected messages. Names often used included Britney Spears, Paris Hilton, Bill Gates, and Osama bin Laden.

A recent ploy used to pass along various infected messages

rumoured that Michael Jackson had attempted suicide.

The top ten names on the Panda Spam list are Britney Spears, Bill Gates, Jennifer Lopez, Shakira, Osama Bin Laden, Michael Jackson, Bill Clinton, Anna Kournikova, Paris Hilton, and Pamela Anderson.

Virus writers use such names to entice users into clicking Web links or open up files that infect their computers, said Patrick Hinojosa, CTO at Panda Software's US subsidiary. "It's a method of social engineering," he said. "A lot of the time it has to do with the timeliness of a current news event."

GTA San Andreas Sex Scenes!

Someone seems to have discovered and unlocked unused code in the game *GTA San Andreas*. Apparently, in the 'hot coffee' mod of the game, apart from driving and shooting people, you have to keep your girlfriends satisfied with your performance. It seems when you drop in for coffee at your girlfriends' homes, you can 'do' them in a number of positions.

A site, gtasanandreas.net, is hosting a video clip of steamy scenes that it says come from the PS2 version of the game.

If you're perverted enough to want to watch sex videos from a *game*, the video is available for you to watch at <http://snipurl.com/fo3f>.

It's a .wmv clip with additional screenshots. Viewer discretion advised! You must be 18 or over to view that page!

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- 2 Enter this 16-digit code and score points (you will find your code at this place every issue)
- 3 Your points get added every month and can be redeemed for exciting gifts!

